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Main Features

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1991 CENSUS DATA QUALITY: HOUSING

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Population Census Evaluation

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INTRODUCTION

The Census of Population and Housing is the largest statistical collection of housing data undertaken by the Australian Bureau of Statistics, providing counts of both private dwellings and non-private dwellings (for example, hotels, hospitals), as well as information on the characteristics of private dwellings and type of non-private dwellings.

In 1991, Census collectors completed questions on the structure of private dwellings and the type of non-private dwellings. Householders in private dwellings were asked about the number of bedrooms, the nature of occupancy (that is whether they owned, rented or were buying their dwelling) and the amount of payments for the dwelling. As only a limited range of multiple response questions were asked on housing, few edits were required beyond assigning 'Not Applicable' codes for housing loan repayment and rental questions once nature of occupancy had been determined.

Dwelling data are used for a variety of purposes. Data on Private Dwellings, obtained from Census housing questions, are used for measuring housing standards, monitoring home ownership trends, and developing housing and social welfare policies etc. Census data assists in identifying housing needs and the extent to which certain groups, such as

indigenous people or the aged, have access to adequate housing. Data are also input into the National Accounts, used in the sample selection for the rent component of the Consumer Price Index and used to monitor regional differences in home ownership trends and conditions. Information about Non-Private Dwellings is used in policy analysis and formulation in the areas of health, the aged, children and rehabilitation.

The following definitions were used in the 1991 Census:

- a **Household** is a person living alone or people living and eating together
 - a **Dwelling** is a building or structure in which people live
 - an **Occupied Private Dwelling** is the premises occupied by a household on Census night
 - an **Unoccupied Private Dwelling** is a structure built specifically for living purposes which is habitable but unoccupied on Census night
 - a **Non-Private Dwelling** is a residential dwelling with accommodation which is not included under the definition of a private dwelling and which is classified by its function.
- (1991 Census Dictionary, Cat No. 2901.0, p 39-40)

One major change between 1986 and 1991 affecting Census data was the reclassification of Caravans etc. in caravan parks from Other dwellings to Private dwellings, enabling dwelling data to be obtained for them for the first time in the 1991 Census, with the exception of Dwelling Structure. This factor has been taken into consideration in analysis.

This paper provides an assessment of the quality of data on housing in the 1991 Census. Analysis of the data involved consideration of intercensal changes, non-response rates and data from a number of independent surveys. Issues such as the impact of equating households with dwellings in the Census and the impact of form design changes were examined. In addition, the changes being considered for the 1996 Census will also be mentioned as they deal with a number of issues identified from the 1991 Census.

The surveys used for comparison varied in methodology and scope from the Census. Surveys enumerate a sample of households in Australia, excluding members of the armed forces, usually over a period of weeks or months, but the Census enumerates every household in Australia on one night. Therefore the Surveys are subject to sample error; estimates of sampling error have been included where possible. Survey information is obtained by trained interviewers but the Census is self-enumerated, and this could affect the data.

The surveys used in this paper are:

- **Household Expenditure Survey** which was conducted between July 1988 and July 1989. Information on household income and expenditure, in addition to housing characteristics such as nature of occupancy and mortgage payments were collected.
- **Special Supplementary Survey of Income and Housing Costs** was undertaken from October to December 1990. Information about housing occupancy and costs and some characteristics of the dwellings was obtained for the housing section of this Survey.
- **Labour Force Surveys** are conducted monthly, and questions on labour force participation form the basis of the Survey. Information on some household characteristics are also collected.
- **Post Enumeration Survey** was undertaken three weeks after Census night, 6 August 1991, to gather information about whether persons and dwellings were counted in the Census.

The surveys used the same definition of household as the Census, i.e. a group of people living and eating together. Households in all types of private dwellings, with the exception of those living in caravans in caravan parks, came within the scope of the surveys, with two exceptions. Households residing in caravans in caravan parks were within the scope of the

Household Expenditure Survey. Residents in all private and non-private dwellings come within scope of the Labour Force Surveys. Private dwellings include houses, flats, home units, garages, tents and any other structures used as private places of residence.

Note on table populations

The totals in tables in this paper reflect the different populations used for different purposes. This is illustrated in the table below using data for Occupied Private Dwellings.

Response	Type of Dwelling		
	Occupied Private Dwellings excluding Caravans in Caravan Parks	Occupied Caravans in Caravan Parks	Total Occupied Private Dwellings
Coded responses	5,411,932	71,944	5,483,876
Other/Inadequately described/Not Stated	(Table 12)		(Table 11)
	353,090	15,552	368,642
All responses	5,765,022	87,496	5,852,518
	(Table 10)		(Table 9)

Most tables consisting of 1991 Census data only include categories for Other/Inadequately described/Not Stated and also include Caravans in Caravan Parks. (See Table 9)

Caravans in Caravan Parks were excluded to enable comparison with 1986 Census data and some surveys. (See Table 12 and Table 10)

Responses of Other/Inadequately described/Not Stated were excluded to enable comparison with survey data. (See Table 12 and Table 11)

ACCURACY OF THE CENSUS COUNTS OF PRIVATE DWELLINGS

The Census equates households with occupied Private Dwellings. However, a variety of living arrangements are possible, and in reality the number of households does not necessarily equal the number of occupied private dwellings. The overall effect on the dwelling count will be examined in detail in this Section.

Despite attempts to count all people and dwellings in the Census, a degree of undercounting is inevitable. The Post Enumeration Survey (PES), conducted three weeks after the Census, collects data about people and dwellings missed in the Census. The PES will be discussed in more detail later in this section. It is always possible that overcounting of dwellings will occur in a Census, but since the inception of the PES in 1966, there has always been an overall undercount.

Households and Dwellings

A large part of the debate regarding the quality of housing data concerns the actual quality of the count of dwellings. A lot of attention has recently been focussed on the issue of 'Multiple Household Dwellings', which can lead to overcounting of some dwellings at Census

time. However, undercounting of some dwellings is also possible in the Census, and will be discussed later in this Section.

Australian censuses have always collected data about households rather than dwellings. This practice has presumably continued because one of the United Nations' recommendations for censuses of population and housing is that 'For the purpose of a housing census, each household must be identified separately.' This is because separate concepts of households and dwellings '... permits the identification of the persons or groups of persons in need of separate dwellings.' (United Nations, 1980. **Principles and Recommendations for Population and Housing Censuses**, Series M, No. 67, United Nations, New York, p. 248.) However, not all people or groups of people living together want or need separate dwellings. It is also mentioned that the usefulness of the data obtained from having separate concepts of households and dwellings outweigh the effort involved in maintaining them (Ibid, p. 49). In Australia, data has not been collected in the Census about households sharing dwellings.

Because occupied private dwellings are defined as the premises occupied by a household on Census night, the number of households in dwellings has been considered to be equal to the number of occupied dwellings. This becomes a problem where more than one household lives in a dwelling (i.e. a multiple household dwelling). If there are two households identified by a collector as living in one dwelling, then two households and two dwellings will be counted in the Census, resulting in an overcount of dwellings in that instance.

It is also possible to have multiple dwelling households, where a household lives in more than one dwelling. In the Census, such cases are counted as one household and therefore one dwelling, resulting in an undercount of dwellings. However, the incidence of multiple dwelling **households** is probably rarer than the incidence of multiple household **dwellings**.

Multiple Household Dwellings

Background

In previous Censuses, attempts were made to identify multiple household dwellings. In 1954 and 1976 attempts were made to identify private houses or flats which were shared, and in 1971 and 1976 where a kitchen or bathroom was shared. Data quality for these questions was not good.

Two Census tests conducted in 1994 attempted to identify all multiple household dwellings in the collection districts in the Tests, by collectors questioning householders about the number of households living in each dwelling. It was not very successful, as few such dwellings were identified and despite considerable educative efforts, neither collectors nor householders understood the concepts very well, if at all in some cases.

In 1988 Construction and Systems Section analysed Labour Force Survey data and estimated the incidence of multiple household dwellings in Australia to be between 0.86 and 0.81 per cent. A similar analysis was conducted this year by Statistical Support Section, using August 1991 Labour Force Survey data, and the estimated proportion of multiple household dwellings was lower than the 1988 figure. The two investigations are detailed below.

Investigation using 1988 Labour Force Survey data

In 1988 Construction and Systems Section investigated the incidence of multiple household dwellings using Labour Force Survey data from January, March and June 1988. Their

conclusion was that the Census practice of using households to approximate occupied dwellings did not result in accurate counts of dwellings.

Weighted data were used to obtain estimates of multiple household dwellings across Australia and by Labour Force Survey Dissemination Regions. Construction and Systems Section estimated the incidence of multiple household dwellings was 0.91 per cent for January, 0.90 per cent for March and 0.86 per cent for June.

Sampling Section, now known as the Statistical Support Section, was requested to check these results, and they calculated multiple household dwelling estimates for the whole of Australia for March and June, using step intervals rather than weighted data. Step intervals involve using the state sampling fraction as weights for the dwellings. Weighted data means that each dwelling in the sample was given a weight which was calculated from person weights.

The two Sections' estimates of multiple household dwelling distributions for Australia, using March and June 1988 Labour Force Survey data are listed in the table below.

TABLE 1: Estimated incidence of Multiple Household Dwellings by State/Territory, March and June 1988 Labour Force Surveys

	Construction & Systems Weighted data		Sampling Step intervals	
	March Per cent	June Per cent	March Per cent	June Per cent
Australia	0.90	0.86	0.90	0.75

Multiple household dwelling estimates for March 1988 were the same, but Construction and Systems' estimate was 0.11 per cent higher for June. Presumably the different methods used to estimate the incidence of multiple household dwellings i.e. weighted data and step intervals, are responsible for the differences in results in the June Labour Force Survey. The fluctuations in proportions of multiple household dwellings in the Labour Force Survey for March and June may be partly due to the rotation of one-eighth of all households in the Survey every month. Each month, one-eighth of the households are rotated out of the survey and new households are brought in to replace them.

Investigation using 1991 Labour Force Survey data

An exercise similar to that undertaken by Construction and Systems Section in 1988 was recently performed using August 1991 Labour Force Survey data, in order to compare results with the 1988 investigation.

Estimates of the incidence of multiple household dwellings by State and Territory from the August 1991 Labour Force Survey data are in Table 2, together with standard errors.

TABLE 2: Estimated incidence of Multiple Household Dwellings and standard errors by State/Territory, August 1991 Labour Force Survey

State/ Territory	Multiple Household Dwellings Per cent	Standard error (%)
New South Wales	0.73	0.10

Victoria	0.63	0.09
Queensland	0.54	0.12
South Australia	0.51	0.12
Western Australia	0.55	0.10
Tasmania	0.75	0.18
Northern Territory	0.84	0.57
Australian Capital Territory	1.35	0.40
Australia	0.65	0.05

The estimated incidence of multiple household dwellings in Australia in August 1991 is 0.65 per cent. The Australian Capital Territory had the highest proportion, and was the only State or Territory with a rate greater than one per cent. The Northern Territory recorded the second highest distribution. South Australia had the smallest incidence of multiple household dwellings.

Problems using Labour Force data

Using Labour Force Survey data to estimate the proportion of multiple household dwellings can lead to an overcount of multiple household dwellings, due to Survey procedures. In Labour Force Surveys some multiple-dwelling structures are combined with multiple-household dwellings, so an accurate count of the latter is not possible. This process is explained below.

The Survey process begins with checklisting which is undertaken on the streets without entering properties, where each dwelling listed in a block is given a unique dwelling number. If this process discovers a dwelling which was not on the block list, then it is added to the list and given a new number. At the interview stage, if a dwelling is determined to contain two households, then each household is given a separate household number. The household number is the final digit in the Collection District Indicative, and is usually '1', indicating that one household occupies the dwelling. However, if more than one household lives in the dwelling, then the household number is '2' for the second household, '3' for third etc.

There are two situations where Survey procedures may result in an overcount of the number of multiple household dwellings, while the Census will not. In the first instance, if a dwelling listed as one dwelling during checklisting was discovered at the interview stage to be two dwellings, then this dwelling is treated as a multiple household dwelling. In the Census, any extra dwellings discovered, at any stage, will be given a separate household form. This results in an overcount of multiple household dwellings in the Survey. However, as the incidence of multiple household dwellings is less than one per cent of all private dwellings, cases where multi-dwelling structures were identified at interview stage are probably rare. This Survey procedure means that the results of the 1988 investigation probably also incorporated a slight overcount.

Another possibility arises for overcounting multiple household dwellings in the Survey, when a person requests a separate form for privacy reasons. The Population Survey Operations Interviewers' Manual states:

'You should also (make out a separate household form) where a respondent specifically asks for his/her details to be entered on a separate Form'.

Making out a separate household form for this person results in them being treated as a separate household within that dwelling. In the same situation in the Census, that person would complete a separate privacy form, which would be merged back with the rest of the household during processing. In the Census this would be counted as one household, but in the Labour Force Surveys it would be counted as a multiple household dwelling.

Metropolitan and Extra-metropolitan Regions

The following table contains estimates of multiple household dwellings for each State and Territory, by metropolitan and extra-metropolitan regions for all the States. Estimates are derived from August 1991 Labour Force Survey data. The Northern Territory and Australian Capital Territory are excluded from the table because high sampling error did not allow reliable estimates to be made for small areas.

TABLE 3: Estimated incidence of Multiple Household Dwellings and standard errors by Metropolitan/Extra-metropolitan Regions and State/Territory, August 1991 Labour Force Survey

State	Metropolitan regions		Extra-metropolitan regions	
	Rate Per cent	Standard error	Rate Per cent	Standard error
New South Wales	0.84	0.16	0.55	0.11
Victoria	0.65	0.10	0.60	0.18
Queensland	0.60	0.15	0.49	0.17
South Australia	0.52	0.13	0.46	0.25
Western Australia	0.46	0.11	0.82	0.21
Tasmania	0.96	0.25	0.61	0.26

For all States except Western Australia the estimated incidence of multiple household dwellings was higher in metropolitan than extra-metropolitan regions. Tasmania and New South Wales recorded the greatest proportions of multiple household dwellings in their metropolitan regions.

Comparison between 1988 and 1991 Multiple Household Dwelling Investigations

Estimates of the incidence of multiple household dwellings in Australia from the investigations using 1988 and 1991 Labour Force Survey data are in Table 4 below. State and Territory breakdowns are provided for the estimates calculated by the Statistical Support Section for March and June 1988 and August 1991. Construction and Systems Section did not provide estimates by State and Territory.

TABLE 4: Estimated incidence of Multiple Household Dwellings by State/Territory, using January, March and June 1988 and August 1991 Labour Force Surveys

Calculated using Weighted data	Calculated using Step intervals	Calculated using Weighted data
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State/Territory	January 1988 %	March 1988 %	June 1988 %	March 1988 %	June 1988 %	August 1991 %
New South Wales	-	-	-	0.98	0.90	0.73
Victoria	-	-	-	0.66	0.69	0.63
Queensland	-	-	-	0.93	0.73	0.54
South Australia	-	-	-	0.51	0.46	0.51
Western Australia	-	-	-	0.64	0.57	0.55
Australia						
Tasmania	-	-	-	0.87	0.92	0.75
Northern Territory	-	-	-	1.26	0.34	0.84
ACT	-	-	-	1.53	1.55	1.35
Australia	0.91	0.90	0.86	0.90	0.75	0.65

The investigation using August 1991 Labour Force Survey data estimates a lower proportion of multiple household dwellings than the report using 1988 Labour Force Survey data, both nationally and for individual States and Territories. Each of the estimates shows the Australian Capital Territory with the highest proportion of multiple household dwellings. The August 1991 data ranges from 0.51 to 1.35 per cent, which is a smaller range than the 1988 results. March 1988 data ranged from 0.51 to 1.53 per cent and the June data from 0.34 to 1.55 per cent.

Some differences in results are expected between the two investigations because data is from Labour Force Surveys from different months and years, and so different samples of households across Australia were included in each Survey. Also, the 1988 Surveys were benchmarked to 1986 Census data, while the 1991 Survey was benchmarked to the 1991 Census. All figures are probably a slight overcount, as explained earlier in this section.

Relationship to Group Households

It is likely that the incidence of multiple household dwellings is related to the incidence of group households. According to the definition in the Census Collector's Manual, in group houses where the occupants share the dwelling but usually supply their own food, these people are counted as separate households and are issued with a separate household form. In practice, most households are unaware of this definition and usually only complete one form.

Table 5 shows the incidence of group households in each State and Territory, according to the 1991 Census.

TABLE 5: Incidence of Group Households by State/Territory, 1991 Census

State/Territory	Number	Group households Per cent
New South Wales	88,566	4.5
Victoria	62,427	4.2
Queensland	47,018	4.6
South Australia	19,093	3.7
Western Australia	25,134	4.6

Tasmania	5,192	3.2
Northern Territory	3,279	6.5
Australian Capital Territory	5,352	5.8
Australia	256,061	4.4

The table above supports the link between multiple household dwellings and group households. The Northern Territory and the Australian Capital Territory not only have the highest incidence of multiple household dwellings in the Labour Force Survey but also the greatest proportions of group households in the Census, with 6.5 and 5.8 per cent respectively. All the States had lower proportions of these households, ranging from 3.2 to 4.6 per cent.

Multiple Dwelling Households

The following instruction is taken from the Collector Manual for the 1991 Census:

Where a number of non-attached buildings are used by one household for dwelling purposes, the whole group of buildings should be regarded as one dwelling. This applies to caravans, sheds, huts, etc., on the same block as a house, as well as adjacent houses occupied by the same family.

Thus, the stock of dwellings may be subject to a degree of undercount due to multiple dwelling households. In the monthly Labour Force Survey, separate dwellings would, most likely, be listed separately with people being enumerated in the house in which they lived.

While instances of multiple dwelling households are probably rare, it is a factor that may lead to some undercounting of dwellings in the Census and introduces another difference into the comparison of Census and Survey data.

Undercount of Dwellings

The Post Enumeration Survey (PES) provides information on the undercounting or overcounting of persons and dwellings in the Census. The PES, unlike the Census, does not equate one household with one occupied private dwelling, but counts households and dwellings individually. The 1991 PES sampled approximately two-thirds of one percent of all Private Dwellings in the country. Private Dwellings in remote areas were excluded from the scope of the Survey because of the high costs involved. The sample used in the PES in 1991 was large enough to provide estimates by State and Territory with relatively small standard errors.

1991 Census dwelling undercount rates by State and Territory and Capital City Statistical Divisions and Balance of State are listed in the table below, together with standard errors. Totals only are provided for the Northern Territory and the Australian Capital Territory, as high sampling error did not allow for reliable estimates of underenumeration for smaller areas.

TABLE 6: Dwelling undercount rates and standard errors by Capital City/Balance of State and State/Territory, 1991 Census

State/Territory	Rate (%)	Capital City Standard Error	Rate (%)	Balance of State Standard Error	Rate (%)	Total Standard Error
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New South Wales	1.0	0.2	1.8	0.3	1.3	0.1
Victoria	0.8	0.2	1.4	0.3	1.0	0.2
Queensland	0.6	0.1	2.1	0.1	1.5	0.1
South Australia	0.8	0.1	5.3	0.4	2.1	0.1
Western Australia	0.5	0.1	3.7	0.4	1.4	0.2
Tasmania	1.1	0.4	2.2	0.4	1.8	0.2
Northern Territory *	-	-	-	-	2.5	0.5
Australian Capital Territory *	-	-	-	-	0.8	0.2
Australia	0.8	0.1	2.2	0.1	1.3	0.1

* NT and ACT are totals only because high sampling error does not allow reliable estimates of undercounting being made for smaller areas.

The table above shows a net undercount of private dwellings in the 1991 Census. The Australian Capital Territory had the lowest proportion of undercounting for all States and Territories, and the highest was recorded by the Northern Territory with 2.5%, which was over three times that of the Australian Capital Territory. The low undercount rate for the Australian Capital Territory is most likely because of its small size and highly regulated urban nature, making it easier for collectors to find all dwellings. The many rural regions in the Northern Territory make it difficult for collectors to locate dwellings in isolated areas, which is probably why it recorded the highest proportion of underenumerated dwellings.

Undercounting of dwellings was low in Capital City Statistical Divisions, but the Balance of State category was almost three times as high as that for capital cities, a significant difference. Presumably for this same reason the Northern Territory recorded the highest overall underenumeration rate, as dwellings are harder to find in sparsely populated areas common in the Northern Territory. South Australia had the largest undercount rate for Balance of State, which was almost seven times higher than in Adelaide. The lowest rate of dwelling undercount for Balance of State was recorded by Victoria, with very few remote areas. Undercounting in capital cities was low, with Brisbane and Perth having the smallest rates for capital cities, and Hobart and Sydney the highest.

One problem with the quality of the dwelling undercount data is the possibility that dwellings out of scope of the Census were included in the PES, resulting in an overstatement of missed dwellings. This could happen for dwellings which were under construction at the time of the Census but completed by the time of the PES.

Occupancy Status of Missed Dwellings

As Table 7 shows, a large proportion of missed dwellings appear to have been unoccupied rather than occupied. This table is based on raw (ie. unweighted) data from the Post-Enumeration Survey and uses the occupancy status of dwellings as the time of the PES. As this was several weeks after the Census, people may have moved into or out of dwellings in that time.

TABLE 7: Occupancy status in PES by match status, all dwellings, 1991 PES unweighted data

Match Status	Count			Percent		
	Occupied	Vacant	Total	Occupied	Vacant	Total
Matched	34,490	2,135	36,625	99.4	86.8	98.6
Missed	183	282	465	0.5	11.5	1.3
Not known	29	42	71	0.1	1.7	0.2
Total	34,702	2,459	37,161	100.0	100.0	100.0

11.5 per cent of dwellings identified as vacant in the PES were missed in the Census, compared to only 0.5 per cent of occupied dwellings. Although this data is unweighted, and

thus may not accurately represent the proportions for Australia, it indicates that a majority of dwellings missed in the Census were unoccupied.

A dwelling was allocated a match status of 'Not known' if it was not possible to determine if a dwelling was counted or missed in the Census. The incidence of 'Not known' codes is higher for vacant dwellings than occupied dwellings, indicating that matching was more difficult. It is likely that many of these dwellings were in fact missed as well.

Comparison with 1986 Dwelling Undercount

Problems were experienced with quality of dwelling undercount data in 1986, and to a lesser extent in 1991. In particular, there were difficulties matching dwellings in the PES with those in the Census due to, for example, vague or ambiguous addresses. Dwellings for which a match status could not be determined were excluded from the estimation of undercount.

In 1986 it was not possible to determine a match status for 356 dwellings. This was a cause for concern as this figure is of the same magnitude as the number of dwellings missed which was 366. In 1991, a match status could not be determined for only 71 dwellings, compared to 465 dwellings missed. Thus it is possible to have more confidence in the resulting undercount estimates for 1991.

1986 and 1991 Census undercount rates for dwellings by State and Territory, and by Capital City Statistical Divisions and Balance of State are in the table below. Neither Territory was divided into regions because high sampling error did not allow for reliable estimates for small areas. 1986 PES data in the table is from a 1986 Census Working Paper 90/3 **Results from the 1986 PES - Dwelling Undercount**. No standard errors were published for dwelling underenumeration rates in 1986.

TABLE 8: Dwelling undercount rates by Capital City/Balance of State and State/Territory, 1986 and 1991 Censuses

State/Territory	Capital City		Balance of State		Total	
	1986 Per cent	1991 Per cent	1986 Per cent	1991 Per cent	1986 Per cent	1991 Per cent
New South Wales	0.5	1.0	1.1	1.8	0.7	1.3
Victoria	0.7	0.8	1.2	1.4	0.8	1.0
Queensland	0.7	0.6	1.6	2.1	1.2	1.5
South Australia	0.4	0.8	2.4	5.3	1.0	2.1
Western Australia	0.8	0.5	2.8	3.7	1.3	1.4
Tasmania	0.9	1.1	0.9	2.2	0.9	1.8
Northern Territory *					2.0	2.5
Australian Capital Territory *					0.4	0.8
Australia	0.6	0.8	1.4	2.2	0.9	1.3

* NT and ACT are totals only because high sampling error does not allow reliable estimates of undercounting being made for smaller areas.

The dwelling undercount rate for Australia and each State and Territory was higher in 1991 than 1986. The total undercount rate rose from 0.9 per cent in 1986 to 1.3 per cent in 1991. The largest intercensal increases for the States occurred in South Australia (1.1 per cent) and Tasmania (0.9 per cent), with Western Australia recording the smallest rise of 0.1 per cent. Overall, the Northern Territory had the highest rate of dwelling underenumeration and the ACT the smallest in 1986, and this pattern was repeated in 1991.

The table shows similar trends for both Censuses with the Balance of State areas recording

greater underenumeration rates than the Capital City Statistical Divisions. There was a significant intercensal increase of 0.8 per cent for the Balance of State areas. South Australia showed the largest increase of almost 3 per cent. The undercount rate for dwellings in the Capital City regions changed little with an increase of only 0.2 per cent.

Summary

This section in the working paper has used information about multiple household dwellings, which in theory result in overcounting of dwellings, and information about the extent of dwelling undercount, to provide an indication of the accuracy of the count of private dwellings in the 1991 Census.

The figures used in this Section are approximate, as Caravans etc. in caravan parks are included, although they are out of scope for Labour Force Surveys and the Post Enumeration Survey.

The incidence of multiple household dwellings using August 1991 Labour Force Survey data is estimated at 0.65 per cent for Australia, which is lower than another study conducted in 1988 by Construction and Systems Section. The estimated incidence of multiple household dwellings is a probably a slight overestimation, as some Labour Force Survey procedures result in overcounting of multiple household dwellings. This means that there was an overcount of 0.7 per cent or 47,230 dwellings or less on this account. See Appendix 4 for the calculations used in this Section.

Undercounting of dwellings increased slightly between Censuses, mostly for Balance of State areas. Nationally, Balance of State areas recorded underenumeration rates almost three times greater than Capital City Statistical Divisions.

The 1991 Post Enumeration Survey showed that 1.3 per cent of all private dwellings were missed by collectors on Census night, with greater proportions of dwellings missed outside Capital City Statistical Divisions. Many of these dwellings were unoccupied. PES data indicates that about 84,960 extra dwellings should have been counted in the Census. However, the undercount rate is still rather low.

Given the magnitude of undercounting, the magnitude of overcount seems too small to warrant attention. Adding an extra 84,960 and subtracting 47,230 from the 1991 Census count of 6,450,100 would result in a net undercount of approximately 37,730 dwellings, or 0.6 per cent.

NATURE OF OCCUPANCY (TENURE)

Nature of Occupancy refers to the arrangement by which people occupy a Private Dwelling. This information, sometimes referred to as type of tenure, has been collected from all Censuses since 1911. When cross-classified with other Census data about dwellings and households, it is used to monitor access to adequate housing and issues relating to mobility, tenancy and owner-occupancy rates. It is used in determining housing and social welfare policies at a regional, state and national level. The Census is the only collection from which Nature of Occupancy data for small groups of the population or for small geographical areas is available.

In 1991, a derivation table was used to determine whether households owned, rented or were purchasing the private dwelling in which they were enumerated on Census night. The response was derived from answers to six housing questions on the form: whether the household was renting the dwelling; type of landlord; amount of weekly rent paid; whether the dwelling was rented furnished or unfurnished; whether the dwelling was owned or being

purchased by a household member, and amount of housing loan repayments. The 1991 Census question and derivation table are in Appendices 2 and 5.

In broad terms, Nature of Occupancy is derived as follows. If 'Yes, owned' is marked and no average monthly payment is stated, the dwelling is classified as 'Owned'. If 'Yes, being bought' is marked or an average monthly payment is stated and there are no contradictory responses indicating renting, the dwelling is classed as 'Being purchased'. If a number of responses indicating renting are marked and there are no contradictory responses indicating owned or being bought, then the dwelling is classed as 'Rented'. If responses do not fit one of these categories, the dwelling is classed as 'Other/Inadequately described' or as 'Not Stated', if no responses at all are given.

Nature of Occupancy applies only to occupied private dwellings, including caravans, tents, campervans etc. in caravan parks as well as households living on boats in marinas. It is not applicable to unoccupied, non-private, migratory or off-shore dwellings.

The populations used in tables in this section differ between tables to enable comparison with other data sources. See Section 1.1 for a more detailed explanation.

1991 Census Counts

1991 Census data in Table 9 shows the proportion of households which own, are purchasing or renting their dwellings, as well as those responses classed as 'Other/Inadequately described' and Not Stated. When households do not answer the questions fully or consistently their Nature of Occupancy may be coded as 'Other/Inadequately described'. The occupancy status of households who do not answer any of the housing questions is coded to Not Stated. These categories will be examined in more detail in Section 3.2.2. The derivation table in Appendix 5 contains further details on the allocation of Nature of Occupancy codes.

TABLE 9: Nature of Occupancy, occupied private dwellings, 1991 Census

Nature of Occupancy	Number	Per cent
Owned	2,361,965	40.4
Being Purchased	1,561,267	26.7
Rented	1,560,644	26.7
Other/Inadequately Described	210,316	3.6
Not Stated	158,326	2.7
Total	5,852,518	100.0

The table indicates that home ownership is the most common type of tenure in Australia, followed in equal proportions by households purchasing or renting dwellings. 3.6 per cent of all responses could not be coded to those three types of tenure and were placed in the 'Other/Inadequately described' category. The non-response rate was 2.7 per cent. Although the non-response rate is not large, when combined with Other/Inadequately described responses, this means that clear tenure information was not obtained for 6.3 per cent of all households in Australia.

Comparison with 1986 Census Data

Outline of main changes

Differences in the housing questions for the last two Censuses may have influenced the way some householders answered these questions, but this effect is not possible to measure. Format changes made to the 1986 question included the introduction of Optical Mark Recognition forms, altering sequencing instructions and changing the weekly rent and housing repayments questions from write-in to self-coded formats. Copies of the housing questions for the 1986 Census are in Appendix 1.

Table 10 lists Nature of Occupancy counts and distributions for the 1986 and 1991 Censuses and the difference between them.

TABLE 10: Nature of Occupancy, occupied private dwellings, excluding caravans in caravan parks, 1986 and 1991 Censuses

Nature of Occupancy	1986 Census		1991 Census		Difference	
	Number	Per cent	Number	Per cent		
Owned	1,981,919	38.2	2,322,203	40.3	340,284	2.1
Being purchased	1,604,405	30.9	1,556,075	27.0	-48,330	-3.9
Rented						
Housing Commission or Authority						
landlord	278,638	5.4	329,248	5.7	50,610	0.3
Other Government Agency landlord	68,550	1.3	71,169	1.2	2,619	-0.1
Other landlord	944,673	18.2	1,084,728	18.8	140,055	0.6
Landlord not stated	42,505	0.8	48,509	0.8	6,004	0
Subtotal	1,334,366	25.7	1,533,654	26.6	199,288	0.9
Other/Inadequately described	174,133	3.4	204,927	3.6	30,794	0.2
Not stated	92,601	1.8	148,163	2.6	55,562	0.8
Australia	5,187,424	100.0	5,765,022	100.0	577,598	0.0

1991 Census data shows increases in the percentage distribution for all tenure classifications in the intercensal period with the exception of households purchasing their dwellings. Intercensally, the proportion of owned dwellings rose by 2.1 per cent, while there was a decrease of almost four per cent in dwellings being purchased. These intercensal differences can be attributed to changes in society rather than the quality of 1991 data. For example, greater proportions of householders were aged 65 years and over, and these people were more likely to own their homes than those in younger age groups. Also, housing affordability declined between 1985 and 1991, making it more difficult for households to purchase dwellings. (ABS, **Australian Social Trends**, Cat. No. 4102.0, Canberra, 1994, p. 160.) See Section 3.2.4 for more detail.

The 'Other/Inadequately described' classification rose by 0.2 per cent, and the non-response rate by 0.8 per cent. The increases may be due to the change to Optical Mark Recognition (OMR) forms, resulting in a change of format for some of the housing questions, as outlined earlier in this section.

Most intercensal changes in the proportions of households owing, purchasing or renting their dwellings can be explained by societal issues, rather than data quality factors. But the rise in Other/Inadequately described and Not Stated codes in 1991 does affect the quality of the data and makes it difficult to determine to what extent changes observed are due to changes in society or changes in response patterns. However, any decline in data quality would only be marginal, as the increases in Other/Inadequately described and the non-response rate are quite small.

Non-response

The one per cent increase in Other/Inadequately described and the non-response rate may reflect the rising number of households who do not fit into the traditional tenure categories of owning, purchasing or renting. Other types of occupancy, such as rent/buy schemes were available in 1991, but no data about other forms of tenure were collected. If the household did not fit one of the traditional tenure categories, they would have experienced problems answering the questions in a manner which satisfied the derivation pattern for tenure, and this may account for the increase in Other/Inadequately described and non-response categories.

Age distribution

The intercensal rise in the proportion of owned dwellings is perhaps influenced by the ageing of the population. The Nature of Occupancy of a dwelling is often linked to the stage in life the occupants have reached. This is illustrated by the following graph, which divides the Australian population into seven age groups and shows the proportions of each group living in dwellings which are owned, being purchased or being rented, according to 1991 Census data.

FIGURE 1: Nature of Occupancy by Age, people in private dwellings, 1991 Census

The graph illustrates that children are more likely to live in dwellings being purchased, as young families tend to have mortgages, while those in their late teens and early twenties are likely to be living in rental accommodation after they have left their parents' home. People in their 20s and 30s are likely to start buying their first home, and to pay off mortgages in their 40s and 50s. Those aged in their 60s and over are more likely to own their own homes. In 1991 almost 77 per cent of those aged 65 years and over lived in homes owned by a member of their household.

Australia's total population grew by eight per cent in the intercensal period, but the proportion of those aged 65 years and over increased by 16 per cent (ABS, **Australian Social Trends**, Cat. No. 4102.0, Canberra, 1994, p.22.). Therefore the increase in home ownership described in Section 3.2.1 may be related to the increasing proportion of those aged 65 years and over in this country, who are more likely than any other age group to own their dwelling.

Housing Affordability Index

The decrease in the proportion of households purchasing their dwellings and the increase in households renting between 1986 and 1991 is possibly due to the increasing costs

associated with buying a home during this period. The affordability of housing loans is measured by the Housing Industry Association using the Housing Affordability Index. The Housing Affordability Index dropped between July 1985 and January 1991 as a result of increasing house prices and fluctuating, but basically increasing, home loan interest rates. This drop confirms that housing loans became less affordable between the 1986 and 1991 Censuses.

The Housing Affordability Index is calculated by the ratio of average household disposable income to the qualifying income required to meet loan payments on a typical dwelling. To calculate qualifying income, a deposit of 20 per cent with repayments equal to 30 per cent of income is used, together with a conventional 25 year loan (Commonwealth Bank and Housing Industry Association, **Housing Report**, May 1992, p.1)

The Index for Australia dropped between 1986 and 1991 and was especially low in 1989 and 1990. The effects of this would still have been felt in 1991, with fewer households taking out mortgages. The overall trend was for a decline in housing affordability between 1985 and 1991 in Australia. The Housing Affordability Index varies between States, Territories and regions and for each quarter of each year, and the averages for Australia, capital cities and remaining regions for the years between 1985 and 1991 are in Figure 2.

FIGURE 2: Housing Affordability Index for Australia, 1985-1991

The graph shows the drop in housing affordability between 1988 and 1989 for Australia, capital cities and the remaining areas. It illustrates that it was more difficult to afford to buy houses in capital cities than in areas outside them. Housing affordability increased between 1990 and 1991, but was not as high as before the drop in 1988.

A decline of almost four per cent in households buying their dwellings between 1986 and 1991 may be due to the increased cost of purchasing a dwelling during that time. House prices and home loan interest rates rose in that period, and were reflected in changes to the Housing Affordability Index.

The increase in the overall cost of buying a house between 1985 and 1991 may have contributed to the 0.9 per cent increase over the last two Censuses for households renting dwellings as fewer households can afford to take out mortgages when the cost of buying dwellings increases. The proportion of households renting from Other (usually private) landlords increased by 0.6 per cent, and the proportion of households renting but not answering the landlord question remained the same. Overall, the proportion of households renting dwellings from Housing Authorities/Commissions or Government Agencies increased by 0.2 per cent.

Comparison with non-Census data

Another indication of the quality of Nature of Occupancy Census data can be obtained by comparing it with non-Census data sources. Data from the 1988-89 Household Expenditure Survey and the 1990 Survey of Income and Housing Costs and Amenities are used for the comparison.

1988-89 Household Expenditure Survey

The following table contains Nature of Occupancy data for the 1988-89 Household Expenditure Survey and the 1991 Census. Standard errors for the Housing Expenditure Survey are calculated from **1988-89 Household Expenditure Survey Australia, Detailed Expenditure Items**, Cat. No. 6535.0, ABS, Canberra, 1990, pp 61-63.

TABLE 11: Distribution of Nature of Occupancy, occupied private dwellings, including caravans in caravan parks, excluding responses of Other or Not Stated in the Census, 1988-89 Household Expenditure Survey and 1991 Census

Nature of Occupancy	Census 1	Survey		Difference
		estimate	std error	
Owned	43.1	42.8	0.68	0.3
Being Purchased	28.5	29.9	0.57	-1.4
Rented	28.5	24.7	0.64	3.8
Rent-free ²	.....	2.6	0.23	.....
Total Rented	28.5	27.3	0.68	1.2
Total	100.0	100.0	.....	0.0

1 Excludes responses coded to Other/Inadequately described and Not Stated

2 The Census did not separately collect data on households living in dwellings rent free.

Comparison of these two collections is made difficult by the slightly different categories for Nature of Occupancy. There is no equivalent category to 'Rent free' in the Census while the Survey does not have Other/Inadequately described or Not Stated categories. Depending on how they chose to respond to the questions, people occupying a dwelling rent free in the Census may have been classed as Renting, Other or Not Stated. The Rent free category has been retained in the table as it indicates the proportion of households affected. As has been done for all other comparisons with surveys in this paper, the categories Other and Not Stated have been excluded, assuming that the households were distributed similarly to those with fully stated responses. The resulting comparison is thus subject to the limitations of this assumption.

The proportion of home owners is broadly similar for the Survey and Census, with 0.3 per cent more households in the Census owning their dwellings. Differences are greater for the other categories. Although, as explained above, these figures are only a rough comparison, they do indicate that Census data is in a similar range as that from the Household Expenditure Survey.

Comparison with the 1990 Survey of Income and Housing Costs and Amenities

The table below compares the distribution of Nature of Occupancy for households in occupied private dwellings, except those in dwellings in caravan parks, from the 1990 Survey of Income and Housing Costs and Amenities and the 1991 Census. The categories Other/Inadequately described and Not Stated were excluded from Census data because they are not included in final survey data.

TABLE 12: Distribution of Nature of Occupancy, occupied private dwellings, excluding caravans in caravan parks and responses of Other or Not Stated in the Census, 1990 Survey of Income and Housing Costs and Amenities and 1991 Census

	1990 Survey	1991 Census#	Difference
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Nature of Occupancy	Per cent	Per cent	Per cent
Owned	43.6	42.9	-0.7
Being Purchased	30.1	28.8	-1.3
Rented	26.4	28.3	1.9
Total	100.0	100.0	0.0

Excludes responses coded to Other/Inadequately described and Not Stated

The table shows similarities between Survey and Census data, and the differences in proportions are less than two per cent for all categories. This is closer than the data from the 1988-89 Household Expenditure Survey, possibly reflecting the smaller difference in time between the 1990 Survey and 1991 Census. The Census had 0.7 per cent fewer households owning their dwellings and 1.3 per cent less who were purchasing them, compared to the 1990 Survey. Almost two per cent more households in the Census rented their dwellings than in the Survey. As the Census and 1990 Survey data are so similar, this indicates no major problems with the quality of the Census data.

1996 Census

In 1996, Nature of Occupancy data will mostly be obtained from one self-coded question rather than the six used in 1991. There will still be some derivation however. More tenure classifications will be used than just owned, being purchased and rented. Other types of occupancy arrangements planned for inclusion on the 1996 Census are rent/buy, rent-free, life tenure schemes (for those in retirement establishments), and 'other'. The additional categories should provide more detailed information and reduce the incidence of the Other/Inadequately described category for the next Census. The proposed 1996 Census Nature of Occupancy question is listed in Appendix 3.

Summary

The differences in Nature of Occupancy data for 1986 and 1991 mostly reflect changes in society rather than data quality issues. However, increases in Other/Inadequately described responses and Not Stated codes for the 1991 Census reflect the limitations of the classification used. In 1991, the questions about tenure assumed the dwelling was either rented, owned or being purchased, and did not allow other forms of occupancy to be reported. Responses from households not renting, owning or purchasing their dwellings were likely to be coded to 'Other/Inadequately described'. The inappropriateness of the response categories may also have resulted in some households not answering any of the housing questions or being incorrectly classified.

Nature of Occupancy data from the 1986 Census, 1988-89 Household Expenditure Survey and 1990 Survey of Income and Housing Costs and Amenities are similar to results from the 1991 Census. This indicates that 1991 Nature of Occupancy data are of reasonably good quality.

Indications are that the types of tenure classifications were not extensive enough, as 6.3 per cent of all responses were coded to 'Other/Inadequately described' or Not Stated. Data quality could be improved by providing more response categories on the Census form, which should reduce the incidence of Other/Inadequately described and non-response.

RENT/HOUSING LOAN REPAYMENTS

Introduction

Data on payments for accommodation were collected in the 1991 Census through questions on Rent and Housing Loan Repayments for Private Dwellings. This information is used in conjunction with other questions such as Income and, for Rent, Landlord and Furnished/Unfurnished to assess the affordability of housing and the disposable income available to households. The Census is the only source of data on housing costs for small areas and small population groups.

Although information on Rent has been collected since the 1911 Census, information on Housing Loan Repayments has only been collected since 1976. There were significant changes in the format and content of the questions on housing payments between 1976 and 1981 but since then the design of the questions has changed little. The main change between 1981 and 1986 was the reference in 1981 to 'mortgages (or contracts of sale) on this dwelling' which was replaced by 'loan(s) for this dwelling'. The wording did not change in 1991. The questions for 1986 and 1991 are reproduced in Appendices 1 and 2.

Traditionally, households have been divided into those renting their dwelling, those buying their dwelling and those owning their dwelling. As has been discussed in Section 3 on Nature of Occupancy, these categories are becoming increasingly inadequate to deal with the many different living arrangements in existence. Many of these changes, such as rent-buy schemes, have an impact on the division of payments for housing into 'rent' or 'housing loan repayments'. Implications for the quality of data in 1991 and changes proposed for the questions in 1996 will be examined later in this section.

The populations used in tables in this section differ between tables to enable comparison with other data sources. See Section 1.1 for a more detailed explanation.

1991 Census Questions

The questions on Rent and Housing Loan Repayments were included in the series of questions used to determine Nature of Occupancy. The first questions in this group were designed to determine if the household was renting or buying their dwelling. If renting, they were directed to the question 'What is the weekly rent?'. Questions concerning whether the dwelling was rented furnished or unfurnished and who was the landlord were also asked so the information could be used in conjunction with Rent. These questions are discussed further in Section 5. If the household was buying the dwelling, they were directed to the question 'What monthly payment or average monthly payment is being made on the loan(s) for this dwelling?'.

In 1991, there was some help provided for people who rang the Hotline. The following instructions are taken from the Census Hotline Inquiry Guide.

- If you are staying in a caravan which you own or are buying, mark 'No' for the first part of Q42 and answer the remaining parts of the question accordingly (i.e. do not show any rent paid).
- If owner and tenant live in the same dwelling (and eat together), they are considered to be one household and should complete one Census Household Form. Questions about the dwelling should be answered by the owner.

The main change to the questions between 1986 and 1991 involved the introduction of Optical Mark Recognition (OMR) technology. As a result, self-coding categories were used rather than asking respondents for the single dollar amounts. The categories for Rent were developed in conjunction with the National Accounts section while Census Development

determined the categories for Housing Loan Repayments. The National Accounts section had a particular interest in the collection of rent data as they have used data from past Censuses as a benchmark to estimate total expenditure for rental dwellings and to impute total rental expenditure for owner occupied dwellings. As the usefulness of data collected in ranges for benchmarks would be limited, their suggestions as to the best categories were followed.

Collection of data through categories rather than single dollar amounts would inevitably lead to some loss of information however it was felt that this would not be great and the substantial cost savings in processing the data justified the change. The effectiveness of the self-coded categories will be discussed further in the next sub-section.

In a previous working paper (Census Working Paper 93/2 Comparison of Self-coded and Write-in Responses: July 1992 Test), the effects of collecting information in categories rather than in written responses were examined. Although the questions on Rent and Housing Loan Repayment were not covered in that report, it is possible that they may have been affected in a similar way to Income, which also had similar response categories. In particular, people may have been less inclined to mark the highest and lowest categories in a list. Unfortunately, due to the test data no longer being available, it is not possible to repeat the analysis for Rent and Housing Loan Repayment. However, comparison with the 1990 Survey of Income and Housing Costs and Amenities data revealed a possible list effect.

1991 Census counts

Table 13 below contains the 1991 Census results for Weekly Rent and Monthly Housing Loan Repayment. The question on Weekly Rent should have been answered by all households renting their dwelling while the question on Monthly Housing Loan Repayment should have been answered by all households buying their dwelling. In the following table, whether a household should have answered a question was determined by the code allocated for Nature of Occupancy.

TABLE 13: Weekly Rent and Monthly Housing Loan Repayment, dwellings rented/being bought, 1991 Census

Weekly Rent			Monthly Housing Loan Repayment		
	Number	Per cent		Number	Per cent
Less than \$48	221,389	14.2	Less than \$201	174,764	11.2
\$48 - \$77	254,563	16.3	\$201 - \$300	129,291	8.3
\$78 - \$107	269,524	17.3	\$301 - \$400	172,372	11.0
\$108 - \$137	276,686	17.7	\$401 - \$475	124,430	8.0
\$138 - \$167	235,759	15.1	\$476 - \$550	135,720	8.7
\$168 - \$197	108,320	6.9	\$551 - \$625	133,179	8.5
\$198 - \$227	58,169	3.7	\$626 - \$700	104,561	6.7
\$228 - \$267	36,626	2.3	\$701 - \$775	71,350	4.6
\$268 - \$307	18,905	1.2	\$776 - \$850	96,774	6.2
\$308 - \$347	8,618	0.6	\$851 - \$925	60,036	3.8
\$348 - \$397	7,807	0.5	\$926 - \$1000	67,406	4.3
\$398 - \$447	4,631	0.3	\$1001 - \$1200	97,268	6.2
\$448 - \$497	2,815	0.2	\$1201 - \$1400	58,064	3.7
More than \$497	8,478	0.5	More than \$1400	84,406	5.4
Not Stated	48,354	3.1	Not Stated	51,646	3.3
Total rented dwellings	1,560,644	100.0	Total dwellings being bought	1,561,267	100.0

Similar number of households were renting and buying their dwellings in 1991. The non-response rate was reasonably low for both the Rent and Housing Loan Repayments

questions.

The usefulness of data collected using self-coded categories is largely dependent upon the choice of categories. For the 1991 Census, this was based on information including the output categories used in 1986, changes in the housing market since 1986 and the number of categories permitted. The number of categories is determined as a function of space available and concerns about respondent burden. As Table 13 shows, the distribution between the chosen categories was very different for Rent and Housing Loan Repayment.

Responses to Rent were clustered in the lower categories, with 80.0 per cent of rented dwellings in the first 5 of the 13 categories and only 2.1 per cent in the last 5 categories. This may reduce the value of the data for analyses looking at lower income groups as little detail is available on the variations in the lower ranges.

The responses are distributed more evenly for Housing Loan Repayment than for Rent, with 47.2 per cent of households purchasing their homes classed in the first 5 categories and 23.5 in the last 5 categories. The proportion for a single category varied between 3.3 and 11.2 per cent (compared to 0.2 and 17.7 per cent for Rent).

In 1986, data was collected in single dollar amounts but published in categories. More categories were used for Rent than Mortgage (as Housing Loan Repayment was referred to then). The proportion of responses in single Rent categories varied between 1.1 and 10.0 per cent (less than in 1991) while Mortgage varied between 3.2 and 18.0 per cent, at least in part reflecting the limited number of categories.

Comparison between the range of categories provided for Rent and Housing Loan Repayment is possible when Rent is transformed from weekly to monthly amounts, as in Table 14 below.

TABLE 14: Categories for Rent and Housing Loan Repayment, 1986 and 1991 Censuses

1986 Census output categories		1991 Census OMR categories	
Monthly Rent*	Monthly Housing Loan Repayment	Monthly Rent*	Monthly Housing Loan Repayment
\$	\$	\$	\$
0-82	1-99	< 208	< 201
83-126	100-199	208-334	201-300
127-169	200-299	335-464	301-400
170-212	300-399	465-594	401-475
213-256	400-499	595-724	476-550
257-299	500-599	725-853	551-625
300-342	600-699	854-984	626-700
343-386	700-799	985-1157	701-775
387-429	800+	1158-1330	776-850
430-472		1331-1504	851-925
473-559		1505-1720	926-1000
560-646		1721-1937	1001-1200
647-732		1938-2154	1201-1400
733-819		> 2154	> 1400
820+			

* Monthly Rent = Weekly Rent x 52/12 = Weekly Rent x 4.33

The categories chosen for Rent and Housing Loan Repayments in 1991 are very different, making relative assessments of disposable income difficult. In particular, rent categories

cover a wider range of values and are larger at the lower levels.

There has been an increase in the number of categories in the higher ranges for both rent and mortgage between 1986 and 1991. To some extent this reflects increasing housing prices as can be seen in the comparison of 1986 and 1991 data in the next sub-section. However, the cut-off for the top Rent category has increased by 162.7 per cent and, as can be seen in Table 14, represents only 0.5 per cent of households renting their dwellings. Additional categories in the higher ranges for rent were included due to the increasing frequency of rents paid at very high levels; however, this trend was not strong enough to result in large numbers of households in the top rent categories.

Comparison by State and Territory

The effect of the clustering of categories is even more obvious when the distributions of Rent and Housing Loan Repayment are examined by State and Territory. The following table contains the summary figures mentioned previously, that is the proportion of responses in the first and last five categories and the largest and smallest proportion in a category, for each State and Territory, by Capital City Statistical Division and Remainder of State.

TABLE 15: Distribution of Weekly Rent and Monthly Housing Loan Repayment by Part of State/Territory, 1991 Census

State/ Territory	Rent				Housing Loan Repayment			
	5 lowest categories	5 highest categories	Minimum	Maximum	5 lowest categories	5 highest categories	Minimum	Maximum
Sydney	59.2	4.8	0.4	18.8	35.0	35.8	4.5	10.9
Rest of NSW	89.6	0.7	0.1	21.6	51.7	17.0	2.3	12.2
Melbourne	79.9	2.6	0.3	22.3	42.7	28.7	4.5	10.8
Rest of Vic	92.7	1.0	0.1	25.1	57.6	13.9	1.7	15.7
Brisbane	84.3	0.6	0.0	22.4	46.8	21.7	3.2	12.2
Rest of Qld	84.2	2.2	0.2	19.8	51.7	18.1	2.6	12.7
Adelaide	91.6	0.5	0.1	23.3	56.1	15.6	2.1	14.6
Rest of SA	94.6	0.7	0.1	30.9	65.1	10.8	1.2	17.4
Perth	90.7	0.7	0.1	28.0	49.5	19.4	2.7	12.1
Rest of WA	91.7	1.0	0.1	28.5	62.9	12.2	1.6	16.7
Hobart	92.7	0.4	0.0	24.2	64.1	9.6	1.2	19.4
Rest of Tas	94.5	0.3	0.0	28.8	68.2	7.8	0.9	17.0
Darwin	78.3	2.1	0.2	24.0	47.9	19.5	2.6	13.2
Rest of NT	89.0	0.8	0.1	37.9	45.5	22.8	3.2	14.0
ACT	69.5	1.4	0.1	23.3	41.2	31.0	4.6	14.9
Australia	80.6	2.1	0.2	17.7	47.2	23.5	3.7	11.2

The comparison of the highest and lowest categories is even clearer when represented in the following chart. This chart shows the proportion of respondents in the five highest and five lowest categories for Rent and Housing Loan Repayments by Part of State.

The clustering for both Rent and Housing Loan Repayment is least in the Sydney Statistical Division but very large in some other areas, particularly extra-metropolitan areas and the smaller States and Territories. The clustering is less for Housing Loan Repayments for all areas.

In determining the categories for standard output in 1996, it may be advisable to consider the distribution of responses to Rent and Housing Loan Repayments in all areas, not just the major cities (which dominate the Australian total). Another possibility may be to use different categories for different States and Territories.

FIGURE 3: Proportion of dwellings in the five highest and five lowest categories for Rent and Housing Loan Repayments by Part of State, 1991 Census

Comparison with 1986 data

The table below compares data for housing payments for 1986 and 1991 for both Weekly Rent and Monthly Housing Loan Repayment. Although data was collected in single dollar amounts in 1986, values above \$200 for Rent and \$800 for Housing Loan Payment were not stored separately. As a result the highest 1991 categories have been collapsed in the table below.

TABLE 16: Weekly Rent and Monthly Housing Loan Repayment, dwellings rented/being bought, excluding caravans in caravan parks, 1986 and 1991 Censuses

Response		1986		1991
Status	Number	Per cent	Number	Per cent
Weekly Rent				
\$0-\$47	354,878	26.6	217,934	14.7
\$48-\$77	367,908	27.6	244,341	16.4
\$78-\$107	319,852	24.0	263,093	17.2
\$108-\$137	144,209	10.8	274,257	17.9
\$138-\$167	52,315	3.9	234,643	15.3
\$168-\$197	17,395	1.3	107,786	7.0
\$198+	34,881	2.6	144,542	9.4
Not Stated	42,927	3.2	47,062	3.1
Total rented dwellings	1,334,365	100.0	1,533,658	100.0
Monthly Housing Loan Repayment				
\$1-\$200	392,199	24.4	173,507	11.2
\$201-\$300	278,399	17.4	128,222	8.2
\$301-\$400	302,162	18.8	171,471	11.0
\$401-\$475	141,472	8.8	123,945	8.0
\$476-\$550	140,721	8.8	135,324	8.7
\$551-\$625	96,071	6.0	132,911	8.5
\$626-\$700	66,109	4.1	104,379	6.7
\$701-\$775	30,301	1.9	71,252	4.6
\$776+	99,913	6.2	463,597	29.8
Not Stated	57,058	3.6	51,467	3.3
Total dwellings being bought	1,604,405	100.0	1,556,075	100.0

Source: 1986 Supafurf and 1991 Supafurf

Comparing the distributions in 1986 and 1991 reveals large changes in the costs of housing. The distribution of categories do tend to reflect 1991 prices as the 1986 data appears very clustered.

In both years, for both variables, the non-response rate was relatively low, indicating that respondents had few difficulties with the concept or sensitivity of the questions and the introduction of the OMR format did not affect non-response. The low non-response rates do not necessarily mean that there were no problems with the concepts, rather that people whose accommodation arrangements were outside renting, buying or owning were probably not classed as renting or buying in the derivation of Nature of Occupancy and so were not expected to answer the questions on Rent and Housing Loan Repayments.

Analysis by Structure of Dwelling

Information on the structure of dwellings is completed by the collector when delivering the form. Examination of responses to Rent and Housing Loan Repayments by Structure of Dwelling reveals some issues concerning data quality of the housing payments variables.

TABLE 17: Distribution of Weekly Rent and Monthly Housing Loan Repayment by Structure of Dwelling, dwellings rented/being bought, 1991 Census

Amount \$	Separate house	1 sty semi-detached	2+ sty semi-detached	Flat in 1, 2 sty block	Flat in 3+ sty block	Flat attached to house	Caravan in park	Attached to shop/office	Total*
Weekly Rent									
<48	13.1	22.3	13.2	14.3	11.2	13.6	12.8	8.4	14.2
48-77	17.8	15.6	12.8	15.3	9.5	28.7	37.9	15.0	16.3
78-107	14.7	18.1	11.1	28.2	12.8	28.2	23.8	18.5	17.3
108-137	17.1	19.2	14.4	21.7	16.7	14.0	9.0	14.0	17.7
138-167	17.1	12.1	15.9	10.7	18.2	6.6	4.1	10.6	15.1
168-197	7.3	4.5	8.5	3.7	12.8	2.5	2.0	5.4	6.9
198-227	3.8	2.4	6.9	1.7	6.9	1.4	1.6	4.3	3.7
228-267	2.3	1.6	5.7	0.9	4.2	0.8	1.3	3.7	2.3
268-307	1.2	0.7	3.7	0.4	2.1	0.5	0.9	2.6	1.2
308-347	0.5	0.3	1.9	0.2	0.9	0.1	0.5	1.9	0.6
348-397	0.5	0.2	1.7	0.2	0.9	0.1	0.3	1.9	0.5
398-447	0.3	0.1	0.8	0.2	0.6	0.1	0.3	1.6	0.3
448-497	0.2	0.1	0.4	0.1	0.3	0.1	0.2	1.1	0.2
>497	0.5	0.2	0.9	0.3	0.8	0.3	0.6	6.8	0.5
NS	3.7	2.5	2.1	2.1	2.1	2.9	4.8	4.0	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Count of rented dwellings	792,722	183,343	61,468	257,787	190,473	14,140	26,990	17,579	1,560,648
Monthly Housing Loan Repayment									
<201	11.5	8.3	5.1	8.3	6.4	10.3	24.2	4.0	11.2
201-300	8.4	7.5	4.7	6.9	5.5	7.3	20.9	3.8	8.3
301-400	11.2	9.2	7.5	9.5	7.4	7.6	17.4	5.0	11.1
401-475	8.1	7.3	5.8	8.1	6.8	6.5	9.3	3.4	8.0
476-550	8.7	8.2	7.2	9.8	8.3	8.0	7.6	4.2	8.7
551-625	8.5	8.5	7.2	9.8	8.9	8.6	5.2	4.1	8.5
626-700	6.7	6.8	6.4	7.5	7.5	5.6	3.5	3.8	6.7
701-775	4.5	5.2	4.4	5.4	5.2	4.9	1.9	2.5	4.6
775-850	6.2	6.8	6.6	6.7	6.9	5.4	2.1	4.1	6.2
851-925	3.8	4.3	4.4	4.2	4.6	2.9	0.8	2.8	3.8
926-1000	4.3	4.9	5.5	4.4	5.3	4.6	1.1	3.9	4.3
1001-1200	6.1	7.5	9.0	6.3	8.7	6.4	1.0	8.3	6.2
1201-1400	3.6	4.7	6.4	3.8	6.2	3.7	0.6	6.0	3.7

>1400	5.0	7.3	16.2	5.9	9.1	8.7	1.3	35.5	5.4
NS	3.3	3.5	3.6	3.5	3.1	9.6	3.4	8.6	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Count of dwellings being bought	1,422,862	44,248	18,508	22,264	30,923	1,144	5,192	3,860	1,561,267

* Includes Caravans not in caravan parks / houseboats etc., Improvised homes / campers out and Not stated to Structure

As most dwellings being rented or bought are Separate houses, the distribution of responses overall is very similar to the distribution of this category. There is considerable variation between the other Structures. Some variation is as expected; for example Caravans in caravan parks are much cheaper to rent or buy than Separate houses. The clustering of rent for Caravans in caravan parks in the category \$48-\$77 probably represents the average cost charged by caravan parks.

The proportion of responses for Houses/flats attached to shops, offices etc. in the upper ranges appears to be extremely high, particularly for Rent. In this category, 6.8 per cent of responses for Rent are 'More than \$497' (representing 1,196 responses or 14.1 per cent of all responses of 'More than \$497') and 35.5 per cent of responses for Housing Loan Repayment are for 'More than \$1400' (1,370 responses or 1.6 per cent of all responses of 'More than \$1400'). The most likely explanation for this appears to be that some people may be including rent or payments on the shop or office as well as on the residential accommodation in their responses. This is of concern, particularly for Rent, as it will distort the overall distributions of housing payments.

People may be including business premises due to difficulties in splitting payments between business premises and residential accommodation. Such difficulties in responding may also be reflected in high non-response rates. The non-response rate to Housing Loan Repayments for Houses/flats attached to shops/offices is relatively high at 8.6 per cent, indicating that some respondents may have had difficulty answering the question. The non-response rate for Rent in this category is lower at 4.0 per cent, although this is still higher than the overall non-response rate for Rent.

A similar difficulty may also exist for Flats attached to houses, which have a non-response rate to Housing Loan Repayments of 9.6 per cent. However, this is not the case for Rent as the non-response rate for this category is the same as the overall rate for Rent.

Comparison with data from 1990 Survey of Income and Housing costs and Amenities

Figure 4 below compares the distribution of responses in the 1990 Survey and the 1991 Census. A table containing the counts and percentages is included in Appendix 6.

FIGURE 4: Distribution of Rent, dwellings rented, excluding caravans in caravan parks and non-respondents in the Census, 1990 Survey of Income and Housing costs and Amenities and 1991 Census

FIGURE 5: Distribution of Housing Loan Repayment, all dwellings being bought, excluding caravans in caravan parks and non-respondents in the Census, 1990 Survey of Income and Housing costs and Amenities and 1991 Census

The distributions for both Rent and Housing Loan Repayment are similar for the Survey and the Census. More households had low rents in the Survey than the Census. A similar trend was apparent for Housing Loan Repayments with higher numbers in the Survey in the lower

categories; however there was more variation in the distribution and no consistent pattern. This may in part reflect the categories chosen for each variable.

Figure 5 assumes that non-response is distributed evenly across all categories. Any bias towards the lower categories could affect the comparison.

There are some large differences for some categories for both variables. The largest differences for both are for the lowest category. This may reflect a 'list effect'. As mentioned earlier, the Census Working Paper 93/2 examined the possible list effect for Income and other variables. It was observed that fewer people tended to be counted in the most extreme categories when data was collected through a list rather than a write-in format. Although similar, very small, proportions were counted in the highest categories for Rent and Housing Loan Repayment, in both cases the proportion of households in the Census counts in the lowest categories was much lower than the proportion in the Survey.

There was a peak in the category \$776-\$850 for Housing Loan Repayments in the Census which was not observed in the Survey. It is possible that this reflects some list effect - maybe that people did not take the time to think of an exact number for their payment when looking at the list but guessed at about \$800, while when answering the interviewer they gave more precise answers. It is not possible to make any firm conclusions however, as there are many other factors which may cause differences between the data. The two collections were held around 9 months apart and the data may reflect changes in housing and finance in that period. Also, the different methodologies for selection, collection and estimation may also have an impact. Given these differences, the similarities indicate that the Census data was of good quality.

Changes proposed for the 1996 Census

In 1996, data on Rent and Housing Loan Repayments are likely to be collected from a single question on 'How much does your household pay for this accommodation?'. The nature of these payments will then be determined from the separate question on Nature of Occupancy (or Tenure). All the questions are reproduced in Appendix 3.

This new question design should deal with a number of problems. One issue raised when the ABS sought comments on the questions proposed for the 1996 Census concerned whether people included rent subsidies in the rent on their dwelling. If subsidies were included then the rent stated could be higher than actually paid and so their response would not reflect housing affordability. Asking how much the household paid should clarify the question.

The new question will collect data in single dollar amounts. Respondents will have a choice of giving payments in weekly, fortnightly or monthly amounts. Thus, the problems of only having information in pre-determined categories in 1991 will no longer exist and the data will be more valuable to users. The effect of giving respondents the choice of reporting period is not yet clear. Response rates may be improved as the question is easier to answer or, alternatively, the choice may confuse respondents. Testing is continuing on this question to determine the effectiveness of the new design.

Summary

The introduction of OMR in 1991 led to data on Rent and Housing Loan Repayments being captured in categories rather than single dollar amounts for the first time. The introduction of self-coding may have had an impact on responses, although this cannot be quantified. Of more concern were the limits on the usefulness of data collected in ranges, particularly for Rent.

Non-response continued to be relatively low for both questions indicating that respondents generally did not find these questions difficult or sensitive to answer. An increase in the variety of accommodation arrangements, such as rent-buy schemes, may have caused difficulties for some people but due to the nature of the questions they may not have been classed as renting or buying dwellings and so not have been expected to answer these questions.

One data quality issue apparent from this analysis concerns people who were living in a house or flat attached to a shop or office. It appears that some people in this situation may have included rent or loan repayments on the shop or office as well as on their accommodation. This could have some effect on the overall distribution of payments, particularly for Rent.

A significant change in the format and wording of the questions is proposed for 1996. While this should improve the quality of the data, this will have to be monitored carefully.

TYPE OF LANDLORD AND WHETHER DWELLING RENTED FURNISHED OR UNFURNISHED

Landlord and Furnished/Unfurnished data for rented dwellings were obtained in the 1991 Census. These questions should have been answered by all households renting private dwellings. The Furnished/Unfurnished question has been included since the 1947 Census. Householders have been asked to specify the Type of Landlord they rent their dwelling from since 1971.

Landlord, Furnished/Unfurnished and amount of Weekly Rent paid data are used in National Accounts and the Consumer Price Index. Landlord data allows studies of the socio-economic characteristics of tenants of public housing authorities, and comparisons with tenants of private landlords. Furnished/Unfurnished data is used in the analysis of rent data, as householders pay more for furnished dwellings.

The 1991 Type of Landlord and Furnished/Unfurnished questions are essentially unchanged from the 1986 Census. However, their position on the page has altered, and, like all 1991 Census questions, they have been changed to an OMR format. Refer to Appendices 1 and 2 for the questions.

The populations used in tables in this section differ between tables to enable comparison with other data sources.

Type of Landlord

The Type of Landlord question indicates to whom the rent for the dwelling is paid. There are three categories of landlord - the relevant Housing Commission/Authority for each State and Territory (the name of each Authority differs between States and different Census forms are produced), 'Other Government Agency', and 'Other', usually private landlords. See Section 5.1.4 for further detail about Other landlords. All households renting their dwellings on Census night are required to answer this question, including those living in Caravans etc. in caravan parks.

Comparison with 1986 Census data

The table below illustrates the distribution of landlords in the 1986 and 1991 Censuses, for all households in rented dwellings, excluding Caravans etc. in caravan parks.

TABLE 18: Type of Landlord, dwellings rented, excluding caravans in caravan parks, 1986 and 1991 Censuses

Type of Landlord	1986 Census		1991 Census		Intercensal change	
	Number	Per cent	Number	Per cent	Number	Per cent
Housing Commission/ Authority	278,638	20.9	329,248	21.5	50,610	0.6
Other Govt. Agency	68,550	5.1	71,169	4.6	2,619	-0.5
Other Landlord	944,673	70.8	1,084,728	70.7	140,055	-0.1
Not Stated	42,504	3.2	48,509	3.2	6,005	0.0
Total	1,334,364	100.0	1,533,654	100.0	199,290	100.0

Comparison with 1986 Census data shows only small intercensal changes. In 1991, the proportion of dwellings being rented from Housing Commissions/Authorities rose by 0.6 per cent, and this was the only intercensal increase. The proportion of dwellings being rented from Other Government Agencies and Other Landlords declined, while the non-response rate remained unchanged.

In 1991, the majority of households renting their dwelling did so from an Other Landlord, approximately one-fifth rented from a State Housing Authority and less than five per cent from an Other Government Agency. Other Government Agencies include government employers providing rental accommodation for their employees, such as teachers in rural areas and defence force personnel. The non-response rate for this question remained unchanged between 1986 and 1991 at 3.2 per cent

1991 Census data

The following table displays Type of Landlord for all occupied, private, rented dwellings, using data from the 1991 Census. Caravans etc. in caravan parks were separated from all other private dwellings, to determine the effect they have on Type of Landlord data quality.

TABLE 19: Type of Landlord, dwellings rented, 1991 Census

Type of Landlord	Private dwellings, excluding Caravans in caravan parks		Caravans in caravan parks		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Housing Commission/Authority	329,248	21.5	145	0.5	329,393	21.1
Other Government Agency	71,169	4.6	509	1.9	71,678	4.6
Other Landlord	1,084,728	70.7	24,034	89.0	1,108,762	71.0
Not Stated	48,509	3.2	2,302	8.5	50,811	3.3
Total	1,533,654	100.0	26,990	100.0	1,560,644	100.0

When Caravans etc. in caravan parks are added to Type of Landlord data, slight changes result. The proportion of households renting from a Housing Commission/Authority declines by 0.4 per cent, and increases by 0.3 per cent for Other Landlord. There is no change for Other Government Agency tenants. Data quality is marginally poorer for Caravans in

caravan parks, as their inclusion increases the non-response rate by 0.1 per cent, from 3.2 to 3.3. per cent.

Dwelling Structure

Table 20 provides distributions of all occupied, rented Private Dwellings by Type of Landlord and Structure, using data from the 1991 Census.

TABLE 20: Type of Landlord by Structure of Dwelling, dwellings rented, 1991 Census

Structure	Housing Commission/ Authority Per cent	Other Government Agency Per cent	Other Landlord Per cent	Not Stated Per cent	Total Per cent
Separate house	21.4	6.4	68.8	3.4	100.0
Semi-detached/terrace /townhouse etc.					
1 storey	34.4	2.6	60.5	2.4	100.0
2 or more storeys	28.9	2.3	66.7	2.1	100.0
Flat/apartment					
1 or 2 storey block	14.6	3.1	79.2	3.1	100.0
3 storey block	17.5	2.7	77.0	2.7	100.0
4 or more storeys	24.3	1.8	70.9	3.0	100.0
attached to a house	3.6	1.2	91.4	3.7	100.0
Caravan etc. in caravan park	0.5	1.9	89.0	8.5	100.0
Caravan not in caravan park etc.	1.6	2.9	85.3	10.1	100.0
Improvised home/Campers out	4.0	7.1	80.1	8.9	100.0
House/flat attached					
to shop/office etc.	0.6	3.9	91.7	3.9	100.0
Not stated	18.7	4.6	72.1	4.5	100.0

A majority of dwellings for which Structure was not stated were rented from Other Landlords. This is to be expected, as 71 per cent of all rented dwellings are rented from Other Landlords. The highest non response rates for Type of Landlord were for households living in Caravans and Improvised homes. Aside from Caravans in caravan parks, these structures are not usually rented. Terrace houses, townhouses, flats and apartments recorded the lowest non response rates.

Unexpected combinations of Dwelling Structure and Type of Landlord appear in the above table. Caravans etc. within and outside caravan parks and improvised homes are listed as dwellings being rented from Housing Commissions/Authorities and Other Government Agencies.

This is further investigated in the table below which lists labour force status and, where applicable, occupation for all people over 15 years of age, who were renting caravans etc. (within or outside caravan parks) or improvised homes from Other Government Agencies and Housing Commission/Authorities. It should be noted that only 1,681 people are involved.

TABLE 21: Labour Force Status and Occupation for people over 15 years, renting from Housing Commission/Authority or Other Government Agency Landlords, and living in caravans within or outside caravan parks or in Improved homes/Camping out, 1991 Census

Occupation	Caravans etc. in caravan parks		Caravans etc. not in caravan parks		Improved Homes/ Camping Out	
	Number	Per cent	Number	Per cent	Number	Per cent
Housing Commission/Authority Landlords						
Employed						
Managers/Administrators	0	0.0	0	0.0	0	0.0
Professionals	6	2.5	3	3.4	4	2.0
Para-professionals	3	1.3	3	3.4	7	3.4
Tradespersons	17	7.2	4	4.5	3	1.5
Clerks	0	0.0	3	3.4	0	0.0
Sales & Personal Service Workers	6	2.5	3	3.4	4	2.0
Plant & Machine Operators/Drivers	10	4.2	3	3.4	3	1.5
Labourers & Related Workers	18	7.6	7	7.9	31	15.3
Inadequately Described/Not Stated	11	4.6	0	0.0	19	9.4
Total Employed	71	30.0	26	29.2	71	35.0
Unemployed	26	11.0	15	16.9	21	10.3
Not in the Labour Force	132	55.7	39	43.8	92	45.3
Not Stated	8	3.4	9	10.1	19	9.4
Total	237	100.0	89	100.0	203	100.0
Other Government Agency Landlords						
Employed						

Managers/Administrators	41	4.7	9	6.6	6	2.9
Professionals	38	4.4	19	14.0	14	6.7
Para-professionals	14	1.6	8	5.9	10	4.8
Tradespersons	69	7.9	9	6.6	23	11.1
Clerks	43	4.9	3	2.2	4	1.9
Sales & Personal Service Workers	40	4.6	3	2.2	3	1.4
Plant & Machine Operators/Drivers	40	4.6	22	16.2	14	6.7
Labourers & Related Workers	69	7.9	18	13.2	28	13.5
Inadequately Described/Not Stated	37	4.3	5	3.7	13	6.3
Total Employed	391	44.9	96	70.6	115	55.3
Unemployed	127	14.6	12	8.8	16	7.7
Not in the Labour Force	338	38.9	23	16.9	70	33.7
Not Stated	14	1.6	5	3.7	7	3.4
Total	870	100.0	136	100.0	208	

Table 21 shows that the highest proportions of people aged 15 years and over who were renting either caravans or improvised homes from a Housing Commission/Authority were not in the labour force. The situation was different for those who were renting caravans or improvised homes from an Other Government Agency landlord. The largest proportions of these people were employed, many as tradespersons or labourers. It is possible that these people were living in caravans provided by their (government) employers, close to where they were working.

Even if some people may legitimately be renting a caravan from an Other Government Agency, this is not the case for dwellings being rented from Housing Commissions /Authorities. It also seems highly unlikely that improvised homes were rented from Housing Commissions /Authorities or Other Government Agencies. Given the self-enumerated nature of the Census, it is inevitable that some responses such as these (that is, unexpected and probably incorrect) will arise. However, as the numbers involved are small there is little impact of final data quality.

On household forms, the classifications for occupied Private Dwellings are marked on the back page by the collector, but all other housing questions are answered by the householder. The inconsistencies outlined above may be due to mistakes made by the collector and/or the respondent or differences in perception.

Comparison with Landlord data from the 1990 Survey of Income and Housing Costs and Amenities

Table 22 compares Type of Landlord data from the 1990 Survey and 1991 Census, excluding all dwellings in caravan parks, as these were out of scope of the Survey. More categories of landlord were included in the Survey than in the Census. Survey classifications

included 'Employer' (either government or private) and 'Other', which was any landlord not categorised under Government, Employer or Private landlord. Non-response was excluded from Census data for comparison purposes.

TABLE 22: Distribution of Type of Landlord, dwellings rented, excluding caravans in caravan parks and non-respondents in the Census, 1990 Survey of Income and Housing Costs and Amenities and 1991 Census

Type of Landlord	Census *	Survey		Difference
		estimate	std error	
Housing Commission/Authority	22.2	22.5	2.68	-0.3
Other (including Census Other Govt. Agency)				
Employer	.....	6.0	6.15	.....
Private (including real estate agent)	.....	66.8	0.96	.....
Other (excluding rent-free)	.....	4.7	7.01	.....
Subtotal	77.8	77.5	.....	0.3
Total	100.0	100.0	.....	0.0

* Excludes Caravans in caravan parks and not stated responses.

The proportions of Housing Commissions/Authorities are very similar, with a difference of 0.3 per cent. This indicates good quality Census data. Survey data reveals that a large proportion of Other Landlords are private landlords and real estate agents.

Furnished/Unfurnished data

This question elicits information about whether the dwelling being rented by the household on Census night was furnished by the landlord or not. As mentioned earlier in this section, data are used in housing policy and planning issues, and in analysing rent data and housing conditions of certain groups of the population.

Comparison with 1986 Census results

Table 23 below shows the proportion of occupied Private Dwellings rented furnished and unfurnished in the 1986 and 1991 Censuses. It excludes Caravans etc. in caravan parks, because dwelling information was not collected for them in 1986, with the exception of dwelling Structure.

TABLE 23: Distribution of Furnished/Unfurnished, dwellings rented, excluding caravans in caravan parks, 1986 and 1991 Censuses

	1986 Census	1991 Census	Intercensal difference
Un/Furnished	%	%	%

Furnished	16.4	13.8	-2.6
Unfurnished	81.0	78.8	-2.2
Not Stated	2.6	7.4	4.8
Total	100.0	100.0	0.0

Table 23 shows obvious intercensal differences. 1991 data recorded a 2.6 per cent drop in the proportion of furnished, rented dwellings, and a 2.2 per cent decline in those rented as unfurnished. The non-response rate increased substantially from 2.6 per cent in 1986 to 7.4 per cent in 1991 and this prohibits any simple analysis of the change in responses between Censuses.

The 4.8 per cent increase in non-response indicates that data quality in 1991 was not as good as in the 1986 Census. Some changes were made to the position of the question for 1991. Although it was still the last rent question on the form in 1991, it was moved from about two-thirds down the page to the very bottom left corner, with no space around it. It did not stand out as a separate question. Questions at the bottom of a page tend to have higher non-response rates than those near the top, as they are more easily missed by respondents.

During the development of the 1991 Census form, concern was expressed that expanding the size of the Weekly Rent question (from write-in to self-coded format) might result in a poorer response to the Furnished/Unfurnished question which followed it. This is because it would be squashed on the page because of the larger size of the rent question. This concern seems justified in view of the higher 1991 non-response rate.

1991 Census data

Table 24 shows the proportion of all occupied, Private Dwellings rented furnished or unfurnished, from 1991 Census data. The effect on data quality of including Caravans etc. in caravan parks in 1991 is illustrated, as Caravans in caravan parks are included in a separate column in the table.

TABLE 24: Distribution of Furnished/Unfurnished, dwellings rented, 1991 Census

Type of Landlord	Exc. caravans in caravan parks		Caravans in caravan parks		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Furnished	210,971	13.8	14,202	52.6	225,173	14.4
Unfurnished	1,208,532	78.8	6,962	25.8	1,215,494	77.9
Not Stated	114,151	7.4	5,826	21.6	119,977	7.7
Total	1,533,654	100.0	26,990	100.0	1,560,644	100.0

When Caravans etc. in caravan parks were included, the proportion of furnished rented dwellings increased by 0.6 per cent, while unfurnished dwellings decreased by 0.9 per cent. The non-response rate was slightly worse after this category was included.

Type of Landlord

Table 25 shows the proportion of dwellings rented by Type of Landlord and whether they were rented furnished or unfurnished. Data is from the 1991 Census.

TABLE 25: Distribution of Furnished/Unfurnished by Type of Landlord, dwellings rented, 1991 Census

Type of Landlord	Furnished %	Unfurnished %	Not Stated %	Total %
Housing Commission/Authority	6.6	83.6	9.9	100.0
Other Government Agency	17.6	76.2	6.2	100.0
Other Landlord	16.3	78.0	5.7	100.0

A majority of dwellings were rented unfurnished, irrespective of the Type of Landlord they were being rented from. The highest proportion of unfurnished dwellings were rented from Housing Commissions/Authorities, and Other Government Agency dwellings had the lowest proportions. Furnished dwellings were rare, and Housing Commission dwellings were about two and a half times less likely to be furnished than those rented from other types of landlords. Householders renting from Housing Commissions/Authorities recorded the highest non-response rate for this question.

As mentioned previously, the non-response rate for the Furnished/Unfurnished question increased markedly from 2.6 percent in 1986 to 7.4 percent in 1991. In order to gain a better understanding of the nature of non-response for Furnished/Unfurnished, Table 26 compares 1986 and 1991 Census non-response for whether Furnished or Unfurnished by Type of Landlord.

TABLE 26: Non-response for Furnished/Unfurnished by Type of Landlord, dwellings rented, excluding caravans in caravan parks, 1986 and 1991 Censuses

Type of Landlord	1986	Number 1991	Furnished/Unfurnished Non-response rate* 1986	1991
Housing Commission/Authority	8,182	32,480	2.9	9.9
Other Government Agency	1,614	4,348	2.4	6.1
Other Landlord	19,116	58,966	2.0	5.4
Not Stated	6,263	18,357	14.7	37.8
Total	35,172	114,151	2.6	7.4

* Percent of rented occupied Private Dwellings, excluding Caravans etc in caravan parks

From the table, it can be seen that, with the exception of the Not Stated category, non-response rates for Furnished/Unfurnished were low across all other categories of Type of Landlord in 1986. Non-response increased substantially for all categories in 1991 and this further suggests that much of the increase in non-response is most likely due to the change in positioning of the question for 1991.

The table also shows that in 1991, for 37.8 percent of cases in which there was non-

response for Furnished/Unfurnished there was also non-response for Type of Landlord, which represented a large increase (12,094 cases) over 1986. The nature of this change can be identified more easily in Table 27 below. The table shows the distributions of different combinations of non-response to the set of three rent questions.

TABLE 27: Response patterns to Rent, Type of Landlord and Furnished/Unfurnished, dwellings rented, excluding caravans in caravan parks, 1986 and 1991 Censuses

Type of Landlord	Response Status		1986		1991		Difference	
	Weekly Rent	Furnished/Unfurnished	Number	%	Number	%	Number	%
NS	NS	NS	1,771	0.1	12,597	0.8	10,826	0.7
NS	NS	Stated	8,912	0.7	8,594	0.6	-318	-0.1
NS	Stated	NS	4,491	0.3	5,760	0.4	1,269	0.1
Stated	NS	NS	4,074	0.3	8,892	0.6	4,818	0.3
NS	Stated	Stated	27,331	2.0	21,558	1.4	-5,773	-0.6
Stated	NS	Stated	28,170	2.1	16,979	1.1	-11,191	-1.0
Stated	Stated	NS	24,837	1.9	86,902	5.7	62,065	3.8
Stated	Stated	Stated	1,234,779	92.5	1,372,372	89.5	137,593	-3.0
Total			1,334,365	100.0	1,533,654	100.0	199,289	100.0

The table shows that there are two combinations for which both Type of Landlord and Furnished/Unfurnished can have non-response (the first and third row). Of the increase of 12,095 cases in which there was non-response to both these questions, the majority of these cases (10,826) had no response for any of the three "rent category" questions. The relatively large increase in cases of non-response to all three questions between 1986 and 1991 may be as a result of the design and positioning changes to the rent questions for 1991.

There was also a relatively large increase in cases where there was non-response to Furnished/Unfurnished but not to Type of Landlord and Rent, the first two questions in the rent category. This may also be due to changes in question design and positioning for 1991, and, in particular, supports the suggestion earlier that the expansion of the size of the Weekly Rent question may have resulted in a poorer response to the Furnished/Unfurnished question.

Dwelling Structure

Table 28 shows the proportion of dwellings which were rented furnished and unfurnished, by Structure. Data is from the 1991 Census.

TABLE 28: Distribution of Furnished/Unfurnished by Structure of Dwelling, dwellings rented, 1991 Census

	Furnished	Unfurnished	Not Stated	Total
Structure	Per cent	Per cent	Per cent	Per cent
Separate house	10.6	82.0	7.5	100.0
Semi-detached/terrace/ townhouse etc.				
1 storey	9.8	82.6	7.6	100.0
2 or more storeys	12.4	81.1	6.4	100.0
Flat/apartment				
1 or 2 storey block	21.7	70.9	7.5	100.0
3 storey block	17.3	76.0	6.8	100.0
4 or more storeys	20.6	71.8	7.5	100.0
attached to a house	31.5	60.9	7.7	100.0
Caravan etc. in caravan park	52.6	25.8	21.6	100.0
Caravan not in caravan park, etc.	47.1	36.2	16.7	100.0
Improvised home/Campers out	21.5	64.5	14.1	100.0
House/flat attached to shop/office etc.	14.6	77.7	7.7	100.0

Not Stated 15.3 72.9 11.8 100.0

When Dwelling Structure is added to Furnished/Unfurnished data, significant differences appear between caravans and all other types of Private Dwellings. A majority of caravans etc. within and outside caravan parks and are rented furnished, while a majority of all other dwellings are rented unfurnished. This seems to be a reasonable pattern since furnishings are usually built into caravans.

Non-response rate was highest for caravans and improvised homes. Households in 21.6 per cent of Caravans etc. in caravan parks and 16.7 per cent of caravans not in caravan parks etc. did not answer the Furnished/Unfurnished question, while 14.1 per cent in Improvised homes/campers out did not respond. Non-response to Furnished/Unfurnished is probably due to the irrelevance of the question for those living in caravans or improvised homes.

The following table lists non-response rates to the Furnished/Unfurnished question by Dwelling Structure, for 1986 and 1991 Censuses. No dwelling information was collected for Caravans etc. in caravan parks in the 1986 Census, and the category 'flat or apartment attached to a house' was not included until the 1991 Census.

TABLE 29: Non-response rates to Furnished/Unfurnished by Structure of Dwelling, dwellings rented, 1986 and 1991 Censuses

1986 1991 Intercensal

Census Census change

1986 Structure 1991 Structure Per cent Per cent Per cent

Separate house. Separate house. 2.5 7.5 5.0

Semi-detached, row or terrace house; Semi-detached, row or terrace medium density housing. house, townhouse etc.; flat or apartment in a 1, 2 or 3 storey block. 2.4 7.3 4.9

Flat, unit in building over 3 storeys. Flat/apartment in a 4 or more storey block. 2.8 7.5 4.7

Not applicable Flat/apartment attached to a house. 1 - 7.7 -

Caravan, tent etc. in caravan park. 2 Caravan, tent etc. in caravan park. - 21.6 -

Caravan not in caravan park, etc. Caravan not in caravan park, etc. 15.1 16.7 1.6

Improvised home. Improvised home/Campers out. 37.3 14.1 -23.2

House or flat attached to shop, office etc. House or flat attached to shop, office etc. 3.3 7.7 4.4

Not stated. Not stated. 4.8 11.8 7.0

1 This category was not included until 1991.

2 No dwelling information was collected for the category in 1986.

The table above shows that, with one exception, non-response rates to the Furnished/Unfurnished question were higher for all Dwelling Structures in 1991. For all Dwelling Structures, excepting Improvised homes/Campers out, non-response increased by between 1.6 and seven per cent in 1991. The non-response rate to Furnished/Unfurnished for the most common Dwelling Structure, separate houses, rose by five per cent, affecting approximately 59,000 dwellings. The new Furnished/Unfurnished question design adversely affected households in every type of Dwelling Structure, with the exception of those living in improvised homes or camping out.

1996 Census

Both Type of Landlord and Furnished/Unfurnished questions will be expanded on the 1996 Census form. Both questions included a limited range of responses in 1991 in the self-coded format. Other Landlord was a very broad category and did not provide very detailed information for the 71 per cent of households who were renting their dwelling and marked this category. On the 1991 Census form, it was not clear which response (Furnished or Unfurnished) should have been marked by respondents renting a partly furnished house.

In 1996, Type of Landlord will be significantly altered to cater for all possible types of landlord. Private and employer landlords as well as community or co-operative housing groups will be included in the response categories, and if none of the listed responses are suitable there is also an 'Other' category. This allows a greater variety of responses to be captured, providing more detailed information than in 1991. The 1996 question is in Appendix 3. As in 1991, the relevant Housing Commission/Authority for each State and Territory will be used.

The Furnished/Unfurnished question will include an extra response category of 'partly furnished' in 1996. This means that data will be available for those renting a partly furnished dwelling, and will hopefully also help in decreasing question non-response. The proposed question for the 1996 Census is listed in Appendix 3.

Summary

Comparisons with 1986 Census Type of Landlord data show broadly similar results. Nationally, the non-response rate was low and remained unchanged between Censuses. This indicates that the data quality was good. However, a large majority of occupied Private Dwellings were rented from Other Landlords, but no further information about this category is available.

The data showed that some caravans and improvised homes were being rented from Housing Commissions/Agencies and Other Government Agencies. No editing was done on housing questions to check for inconsistent responses like these. It is worth noting that these strange results only affected 0.06 per cent of dwellings being rented.

Furnished/Unfurnished data quality was not as good as that in the 1986 Census, as the non-response rate increased from 2.6 per cent to 7.4 per cent in 1991. Perhaps this was due to the question's poor position, as it was squashed at the bottom of the page, where it could be easily missed by some respondents. The non-response rates for caravans and Improvised homes/Campers out were very high, reflecting the inappropriateness of this question for these Dwelling Structures. With one exception, the quality of Furnished/Unfurnished data for all types of Dwelling Structures, including separate houses, declined intercensally.

NUMBER OF BEDROOMS

A question on Number of Bedrooms has been included in every Australian Census since 1911. Information on Number of Bedrooms is collected in the Census for a number of reasons: to provide an indicator of dwelling size, to enable the calculation of occupancy ratios, and thus measure overcrowding. Data is also used by the Consumer Price Index Section to develop their sampling framework for the rent and mortgage components of the Consumer Price Index.

The question on Number of Bedrooms is asked only for occupants of Private Dwellings. In 1986 the question asked the respondent to give a separate 'write in response' (ie. number of rooms) for each type of room in the household. As well as bedrooms, the other categories were 'lounge', 'lounge/dining', 'kitchen', 'bathroom', 'family room', 'study' and an 'other' category. See Appendix 1 for the 1986 question.

Only data on Number of Bedrooms was entered in 1986 and so total number of rooms was not derived. Data was manually keyed in 1986 and the costs of entering data on other rooms were too high. The question was changed to asking only about bedrooms in 1991 because of the high processing costs and also because tests had shown that the understanding of the question about number of rooms varies for a number of reasons; these include incorrectly counting rooms such as kitchens and bathrooms and double counting of

some rooms that are used for more than one purpose such as bedroom/study.

Another change which impacted on the data for Number of Bedrooms in 1991 was the reclassification of 'Caravans, etc in caravan parks' from Other dwelling type to Private dwelling. All households located in Private dwellings on Census night were primarily enumerated on Household forms and thus were required to give information about Number of Bedrooms. The 1991 question is listed in Appendix 2.

While caravans were included in the set of dwellings for which the question on Number of Bedrooms applied, the question is not really relevant for caravans. The instruction 'Do not answer if you live in a caravan' was included in the Census Hotline Inquiry Guide but given that only a small proportion of people in the Census used the Census Hotline, it is unlikely that many people in Caravans were advised of this instruction. Many people in caravans did answer the question and this should be kept in mind when using data on Number of Bedrooms that includes caravans.

The populations used in tables in this section differ between tables to enable comparison with other data sources.

Census Results

In 1991, there were 5,852,518 Occupied Private Dwellings for which the question on Number of Bedrooms was applicable. Table 30 below shows the distribution of responses from the 1991 Census to Number of Bedrooms by Dwelling Type for Occupied Private Dwellings excluding Caravans in caravan parks, Caravans in caravan parks only and All Occupied Private Dwellings.

TABLE 30: Number of Bedrooms, occupied private dwellings, 1991 Census

Occupied private dwellings, excl.Caravans Caravans, etc in All occupied in caravan parks caravan parks Private Dwellings											
Number of Bedrooms			Number		Per cent			Number		Per cent	
0-1	322,856	5.6	49,574	56.7	372,430	6.4					
2	1,334,354	23.1	19,074	21.8	1,353,428	23.1					
3	2,844,542	49.3	5,987	6.8	2,850,529	48.7					
4	928,037	16.1	891	1.0	928,928	15.9					
5+	167,460	2.9	304	0.3	167,764	2.9					
Not Stated	167,773	2.9	11,666	13.3	179,439	3.1					
Total	5,765,022	100.0	87,496	100.0	5,852,518	100.0					

Of Occupied Private Dwellings excluding caravans, just under 50 per cent had 3 bedrooms, while 16.1 per cent had 4 bedrooms and 2.9 per cent had 5 or more bedrooms. Nearly 30 per cent of these dwellings had 2 or less bedrooms; 23.1 per cent were 2 bedroom dwellings and 5.6 per cent had one or less bedrooms. The non-response rate for Number of Bedrooms was 2.9 per cent.

There were a total of 87,496 caravans enumerated in the 1991 Census. The distribution of Number of Bedrooms for Caravans in caravan parks is substantially different to that for non-caravan dwellings. Around 57 per cent of caravans had none or one bedroom and this category (None or one bedroom) is affected most when caravans are included in the overall count of occupied Private Dwellings. This might be significant when conducting analysis of overcrowding in dwellings. Compared with the other occupied Private Dwellings, caravans had a much higher non-response rate of 13.3 per cent compared with 2.9 per cent. It is possible that some persons in Caravans found the question difficult to answer because it did not make sense or that they perceived the question as not applying to them. The Census

Hotline Inquiry Guide is used by Census staff who operate the telephone advisory service on Census night. The guide specifies that persons living in Caravans should not answer Number of Bedrooms and this may also explain high non-response for caravans.

Data on Number of Bedrooms from the 1986 Census was published only for those Occupied Private Dwellings (excluding Caravans in caravan parks) in which there were one or more usual residents enumerated on Census night. Table 31 provides a comparison of the number of dwellings by Number of Bedrooms for 1986 and 1991 Censuses.

TABLE 31: Number of Bedrooms, occupied private dwellings in which there were one or more usual residents enumerated on Census night, excluding caravans in caravan parks, 1986 and 1991 Censuses

1986 Census 1991 Census Difference						
	Number of Bedrooms		Number		Per cent	
	Number	Per cent	Number	Per cent	Number	Per cent
0-1	297,469	5.7	309,749	5.5	12,280	-0.2
2	1,349,614	26.0	1,302,387	23.3	-47,227	-2.7
3	2,638,248	50.9	2,814,301	50.4	176,053	-0.5
4	671,503	12.9	920,159	16.5	248,656	3.6
5+	106,755	2.1	165,048	3.0	58,293	0.9
Not Stated	123,826	2.4	75,033	1.3	-48,793	-1.1
Total	5,187,415	100.0	5,586,677	100.0	399,262	0.0

There were 5,586,677 dwellings counted in the 1991 Census compared with the 1986 Census, in which 5,187,415 dwellings were recorded, this represents an increase of 399,262 dwellings. There was a significant decrease of 1.1 percentage points in the proportion of Not Stated codes between 1986 and 1991 from 2.4 per cent to 1.3 per cent.

Intercensally there was a large decline in the number of two bedroom dwellings. Perhaps this was due to the type of example used in the 1986 question, where the number '2' was placed in the box for number of bedrooms. This may have influenced some respondents to write '2' on their forms, regardless of the actual number of bedrooms in their dwellings.

Since 1986, there has been a decrease in the proportion of dwellings with 3 bedrooms or less and an increase in the proportion of dwellings with 4 or more bedrooms. Building Approvals, Australia (ABS Cat. 8731.0) publishes data on the number of building approvals granted for new Private Dwellings by dwelling size. Figure 6 compares data on 5 yearly average annual construction of new Private Dwellings for the five years to 1986 and for the five years to 1991.

FIGURE 6 Distribution of five yearly average annual private dwelling construction approvals comparing five year intervals to 1986 and 1991, Building Approvals, ABS 8731.0

The graph shows that the proportion of smaller houses built was greater in the five years up to 1986 than between 1986 and 1991. Conversely, it shows that the proportion of larger houses built was lower in the five years up to 1986 than it was for the five years between 1986 and 1991. This seems to be consistent with the pattern shown in the Census data between 1986 and 1991.

In 1986, the multiple response question for number of rooms included separate categories for 'Bedrooms' and 'Study'. In 1991 some respondents may have counted studies as additional bedrooms and the Census Inquiry Guide did advise people to count studies as bedrooms if they were originally designed as bedrooms. Therefore, it is possible that some of the variation in Number of Bedrooms data, between 1986 and 1991 might be due to variation in question design instructions.

Quality of Responses

Non-response

Table 32 shows the distribution of Not Stated codes for Number of Bedrooms by Number of Usual Residents, 1986 and 1991 Censuses. The table shows non-response rates based on the 1986 method of calculation (which excluded Caravans in caravan parks and dwellings with no usual residents present on Census night).

TABLE 32: Non-response to Number of Bedrooms by number of Usual Residents, occupied private dwellings in which there were one or more usual residents enumerated on Census night, excluding caravans in caravan parks, 1986 and 1991 Censuses

Number Non-response rate*
Usual Residents 1986 1991 1986 1991

1	54,979	31,908	5.4	2.7
2	33,806	19,177	2.2	1.1
3	15,304	8,808	1.7	0.9
4	11,703	7,642	1.2	0.8
5	4,759	4,096	1.0	0.9
6	1,709	2,031	1.0	1.2
7	746	532	1.3	1.5
8 or more	817	839	2.3	4.0
Total	123,825	75,033	2.4	1.3

* Percent of rented occupied Private Dwellings, excluding caravans etc in caravan parks

Overall, the non-response rate for Number of Bedrooms fell between Censuses from 2.4% in 1986 to 1.3% in 1991. There are a number of possible reasons for this improvement in non-response.

The question design was fundamentally changed between Censuses and the question in 1991 was much more simple than in 1986. Respondents were required to break down the dwelling into nine categories in 1986 and write in counts whereas in 1991 they only had to mark one box for bedrooms. It is likely that some of the variation in response rate may be due to the differences in the relative complexity of the question between Censuses.

In 1986 the question as a whole may have seemed inappropriate for persons living in a dwelling with no bedrooms such as bedsitters. If these respondents did not disregard the whole question altogether, there was no instruction for respondents to write in zero, where applicable, and so some persons who were living in dwellings with no bedrooms may have left the box blank instead of writing zero and so would have been coded as Not Stated.

However, on the 1991 form the respondent was required to select the category corresponding to Number of Bedrooms rather than write in the Number of Bedrooms and the category 'None or 1 bedroom' was one of the response categories listed. It is possible that a disproportionate amount of the difference in Not Stated codes between Censuses may have been due to an improvement in response from persons living in dwellings with no bedrooms which could reasonably be attributable to the changes made to the question design.

The pattern of non-response can be seen more easily when shown in a graph. Figure 7 illustrates the incidence of non-response to Number of Bedrooms by Number of Usual Residents. The graph shows that non-response is highest for lone person households and households with eight or more usual residents. Persons from lone person households may have been less likely to respond because they felt the question did not apply to them,

probably because they were more likely to be living in bedsitters and other types of accommodation which did not have bedrooms.

FIGURE 7. Non-response to Number of Bedrooms by number of Usual Residents, occupied private dwellings in which there were one or more usual residents enumerated on Census night, excluding caravans in caravan parks, 1986 and 1991 Censuses

Some of the non-response from households of eight or more persons may have occurred because there was no apparent response category on the form that was suitable for their answer, possibly because they lived in dwellings with six or more bedrooms, and the last category on the form was '5 bedrooms or more'. The number of dwellings with eight or more Usual Residents that were recorded as Not Stated, however, is only relatively small (839 dwellings).

Table 33 below shows the distribution of responses to Number of Bedrooms by Structure of Dwelling. The table shows that structures which have high non-response to Number of Bedrooms also tend to be smaller dwelling structures which have a higher incidence of 'None or 1 bedroom' than other types. This is consistent with the pattern shown earlier of high non-response among persons living in lone person households as these people would be more likely to be living in dwellings with none or one bedroom. This seems to indicate that non-response to Number of Bedrooms is relatively more apparent in dwellings with none or one bedroom.

TABLE 33: Distribution of Number of Bedrooms by Structure of Dwelling, occupied private dwellings, excluding caravans in caravan parks, 1991 Census

Number of Separate Semi-det, Flat/ Attached House/flat Total*

Bedrooms house row/terrace, apartment to a attached
townhouse house to shop

0-1	1.4	11.2	26.2	54.1	16.2	5.6
2	15.2	50.6	58.5	26.2	33.1	23.1
3	57.8	30.9	8.5	8.9	30.9	49.3
4	19.9	3.1	0.5	3.1	8.0	16.1
5+	3.5	0.6	0.4	2.1	6.5	2.9
Not Stated	2.2	3.6	5.9	5.6	5.2	2.9

Total 100.0 100.0 100.0 100.0 100.0 100.0

* Includes caravans not in caravan parks, improvised homes/campers out and Not Stated

Comparison with non-Census data

The Survey of Income and Housing Costs and Amenities 1990 has comparable data on Number of Bedrooms which can be used to further assess the quality of Census data. The questions used for the two collections were very similar.

Table 34 below provides a comparison of Census data on Number of Bedrooms with data from the Survey. The table compares the percentage distribution by Number of Bedrooms between the Census and Survey data. The table shows that the relative distribution of dwellings by Number of Bedrooms is very similar between the two collections. and other differences between the Census and Survey are only slight. Survey estimates of dwelling numbers for 2, 4 and 5 or more bedroom dwellings are significantly different from the Census counts at the 95% level. Generally, the two collections are very similar but slight differences in methodology and use of 1986 population benchmarks by the Survey as well as sampling error are potential sources of variation in the data.

TABLE 34: Distribution of Number of Bedrooms, occupied private dwellings,

excluding caravans in caravan parks and non-respondents in the Census, 1990 Survey of Income and Housing Costs and Amenities and 1991 Census

Number of Bedrooms Census Survey Difference

estimate std error

0-1 5.8 5.8 0.17 0.0

2 23.8 24.5 0.27 -0.7

3 50.8 51.2 0.29 -0.4

4 16.6 15.9 0.24 0.7

5+ 3.0 2.7 0.12 0.3

Total 100.0 100.0 0.0

Summary

The question on Number of Bedrooms was substantially changed between 1986 and 1991 Censuses. The 'write in response' format used in 1986 required respondents to indicate the number of rooms in their dwelling for nine room types but this was changed to a 'self coding' question about bedrooms only in 1991.

'Caravans, etc in caravan parks' were reclassified from Other Dwelling type to Private Dwelling for the 1991 Census and so the question on Number of Bedrooms became applicable to occupants of these dwellings in 1991. However, some persons in caravans may have perceived the question as not really applying to them and this helps to explain the relatively high non-response rate for Number of Bedrooms amongst caravans.

The non-response rate for Number of Bedrooms, when excluding caravans, fell considerably between Censuses, presumably due to the simplified format of question and the change from a write in response to a check box category. The incidence of non-response seems to be higher for dwellings with none or one bedroom.

Data on the proportionate distribution of dwellings by Number of Bedrooms from the Census and the Survey of Income and Housing Costs and Amenities, 1990, were closely aligned which would indicate an acceptable level of quality of Census data on Number of Bedrooms.

STRUCTURE OF PRIVATE DWELLINGS

Information on the physical structure of all Private Dwellings, including occupied caravans and improvised dwellings has been obtained in all Censuses since 1911. From 1911 to 1966 a question on Dwelling Structure was included in the Census form, and in 1971 respondents had to indicate which sketch best illustrated their dwelling. The 1976 Census form required collectors and respondents to give details about the Dwelling Structure, and from 1981 collectors have been responsible for marking this information on the form. In 1991 the Census collector classified the dwellings in a special area on the back of the form. The question is listed below.

Dwelling Structure

() Separate House

Semi-detached, row or terrace house, townhouse etc.

() 1 storey

() 2 or more storeys

Flat or apartment

() In a 1 or 2 storey block

- () In a 3 storey block
- () In a 4 or more storey block
- () Attached to a house
- () Caravan, tent, cabin etc. in caravan park
- () Caravan not in caravan park, houseboat etc.
- () Improvised home, campers out
- () House or flat attached to a shop, office, etc.

Some categories require further explanation. Caravans etc. in caravan parks include boats in marinas, while caravans not in caravan parks include occupied campervans etc. and occupied small craft, houseboats and boats not in marinas. Improvised homes/Campers out include sheds etc. occupied on census night, and tents which were pitched but not in caravan parks. Homeless people were coded to 'improvised home/campers out', but a breakdown of this category is not available. Houses or flats attached to shops, offices, etc. could also be attached to factories or any other non-residential structure.

Data about Dwelling Structure are used to identify changes in patterns of housing, to examine existing housing stock in order to advise on housing policy, for land use forecasting and transport planning. Information about the number and structure of dwellings is used in planning and housing policy issues and enables planners to develop a more efficient pattern of urban settlement.

Comparison with 1986 Census data

In 1986 there were problems with the quality of the data because collectors experienced difficulties classifying dwellings into the types of structures listed on the back of the Census form. The categories were not well defined and did not cater for some types of structures, for example, converted garages.

In 1986, a division was made between older styles and newer developments. The categories 'Semi-detached house' and 'Row or terrace house' were described in the Collector's Manual and Census Dictionary as being for the 'older style' of semi-detached and row or terrace houses. The category 'Medium density housing' was for newer housing, including 'all medium density housing developments - villa homes, town houses, blocks of flats up to three storeys high'.

In the table below, the distribution of Dwelling Structure for Private Dwellings by State and Territory is shown. The 'other' category includes Caravans etc. in caravan parks, caravans etc. not in caravan parks, improvised homes and houses or flats attached to shops, offices, etc.

TABLE 35: Distribution of Structure of Dwelling by State/Territory, all private dwellings including occupied caravans in caravan parks, 1986 Census

Separate Semi- Row/ Medium Flats > Other* Not Stated Total
house detached terrace density 3 storeys

State/Territory	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
New South Wales	73.0	2.0	1.5	15.8	3.3	2.6	1.7	100.0	
Victoria	79.1	2.1	1.3	12.6	1.5	1.8	1.7	100.0	
Queensland	79.3	0.7	0.2	12.0	2.1	4.4	1.3	100.0	
South Australia	76.9	6.6	0.7	12.4	0.5	1.7	1.3	100.0	
Western Australia	77.8	2.1	0.6	13.5	1.6	3.1	1.3	100.0	
Tasmania	84.9	1.4	0.6	9.1	0.5	2.4	1.1	100.0	
Northern Territory	61.0	1.1	1.2	18.0	1.3	13.2	4.2	100.0	

Aust. Capital Territory 81.0 2.5 0.9 13.1 1.0 0.6 1.0 100.0

Australia 76.8 2.2 1.0 13.6 2.1 2.7 1.5 100.0

* comprises Caravans etc. in caravan parks, caravans etc. not in caravan parks, improvised homes and houses or flats attached to shops, offices, etc.

These classifications for structure of dwelling were subjective. Australia wide, 3.2 per cent of dwellings were classified as semi-detached or row or terrace houses. However, 3.4 per cent of all dwellings in the Australian Capital Territory were classed as semi-detached, row or terrace houses, none of which could have been the 'older style' for which the categories were intended given the recent development of Canberra. Also, 2.3 per cent of dwellings in the Northern Territory were semi-detached, row or terrace houses. It is highly unlikely that a city which was extensively destroyed by a cyclone in the 1970s could have this proportion of 'older style' houses.

Collector subjectivity had an impact on the quality of the Dwelling Structure data as testing indicated. In 1989 a skirmish was conducted to test the proposed Dwelling Structure classifications. The test classifications are listed below.

1 Separate house

2 Flat with house

Medium density housing

3 one storey

4 two or more storeys

Flat, unit in building of

5 one or two storeys

6 three storeys

7 four or more storeys

8 Caravan tent, cabin etc. in caravan park

9 Caravan (not in caravan park), houseboat etc.

10 Improvised dwelling

11 House of flat attached to shop, office, etc.

A number of problem areas were found. Some test collectors were confused by 'separate house' and 'medium density' when dwellings were separated by only a few inches. Some of those dwellings were incorrectly classified as separate houses rather than medium density. Many collectors did not consider row, terraced or semi-detached houses as medium density, and classified them as separate houses.

The 1986 classifications were unclear and did not encompass all types of dwellings, which is why 'flat or apartment attached to a house' was added in 1991. The quality of 'medium density' data was suspect. The description in the 1986 Collector's Manual of medium density housing included villa homes and town houses. As definitions of villa homes and town houses were not supplied in the manual, it was left to each collector to determine the meanings of these imprecise terms. For the 1991 Census, semi-detached house was combined with row or terrace house and then split into 'one story' and 'two or more storeys', while 'medium density housing' was expanded to 'flat or apartment' of various storeys and/or 'attached to a house'. The categories 'semi-detached house' and 'row or terrace house' were combined to make 'semi-detached, row or terrace house, townhouse etc.' of one or two or more storeys.

Despite some problems with 1986 Dwelling Structure data, it is still interesting to compare it

with 1991 Structure data. However it should only be viewed as a general guide to 1991 data quality. Table 36 lists 1986 and 1991 Census Dwelling Structure data. Because the classifications of structure of dwellings were altered in 1991, both Census classifications are included in the table. Although in the 1986 Census occupied Caravans etc. in caravan parks were not classified as Private Dwellings, they were included in Dwelling Structure categories.

TABLE 36: Distribution of Structure of Dwelling, all private dwellings including occupied caravans in caravan parks, 1986 and 1991 Censuses

1986 1991 Intercensal

Census Census change

1986 Structure 1991 Structure Per cent Per cent Per cent

Separate house. Separate house. 76.8 76.7 -0.1

Semi-detached, row or terrace house; Semi-detached, row or terrace medium density housing. house, townhouse etc.; flat or apartment in a 1, 2 or 3 storey block. 16.9 17.3 0.4

Flat, unit in building over 3 storeys. Flat/apartment in a 4 or more storey block. 2.1 2.3 0.2

Not applicable. Flat/apartment attached to a house*. - 0.4 -

Caravan, tent etc. in caravan park. Caravan, tent etc. in caravan park. 1.3 1.4 0.1

Caravan not in caravan park, etc. Caravan not in caravan park, etc. 0.4 0.3 -0.1

Improvised home. Improvised home/Campers out. 0.3 0.2 -0.1

House or flat attached to shop, office etc. House or flat attached to shop, office etc. 0.7 0.5 -0.2

Not stated. Not stated. 1.5 0.8 -0.7

Australia Australia 100.0 100.0 0.0

* This category was not included until 1991.

The data shows similarities for the Dwelling Structure classifications for both Censuses as there are differences of less than one per cent for all final categories.

The greatest difference was recorded by semi-detached, row, terrace houses and flats in one, two or three storey blocks. This 0.4 per cent increase in medium density housing is due to a number of social rather than data quality issues. One factor is government planners and private developers attempting to meet the demand for cheaper dwellings closer to employment centres (ABS, Australian Social Trends, Cat. No. 4102.0, Canberra, 1994, p.159). Another factor is the various Government initiatives which have encouraged better use of land and infrastructure such as the Housing Development Program established in 1989 and the Building Better Cities program set up in 1991 (Ibid p.159), although the latter would not likely have had much impact for the 1991 Census.

The non-response rate was 0.7 per cent lower in 1991 than in 1986, indicating that the revised Dwelling Structure classifications were clearer and more wide-ranging than for the previous Census.

1991 Census counts

The following table illustrates the type of structure of all Private Dwellings, from the 1991 Census.

TABLE 37: Structure of Dwelling, all private dwellings including occupied caravans in caravan parks, 1991 Census

Structure Number Per cent

Separate house 4,946,506 76.7

Semi-detached/terrace/townhouse

1 storey 379,796 5.9

2 or more storeys 128,968 2.0

Flat/apartment

1 or 2 storey block 401,663 6.2
 3 storey block 206,544 3.2
 4 or more storeys 149,925 2.3
 attached to a house 26,751 0.4
 Caravan etc. in caravan park 87,495 1.4
 Caravan etc. not in caravan park 21,567 0.3
 Improvised home/Campers out 13,451 0.2
 House or flat attached to shop, office etc. 35,428 0.5
 Not stated 52,006 0.8
Total 6,450,100 100.0

Table 37 above shows that a majority of Private Dwellings are separate houses, with significantly smaller proportions of all other Dwelling Structures. Caravans etc. not in caravan parks and improvised homes/campers out comprise the smallest proportions of Private Dwellings. The non-response rate of 0.8 per cent is quite low, but is higher than expected as Census collectors completed the question and not householders. It seems most of this comes from mailback forms where collectors did not mark the form. In the case of mailbacks, collectors are required to mark all relevant information on the back of the form prior to delivery.

Although Dwelling Structure classifications were revised for the 1991 Census, it is still possible that collector bias affected the way some dwellings were classified, which may have affected data quality. For example, it was still possible to confuse separate house with semi-detached, row, terrace or townhouse, as mentioned earlier. However, it is impossible to measure this effect on the quality of the data.

State/Territory comparison

Table 38 shows the Structure of all Private Dwellings by State and Territory, using 1991 Census data.

TABLE 38: Distribution of Structure of Dwelling by State/Territory, all private dwellings including caravans in caravan parks, 1991 Census

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Structure	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Separate house	72.7	79.8	78.4	76.9	77.8	84.8	60.8	79.1	76.7
Semi-detached/ terrace/townhouse									
1 storey	4.0	6.8	2.8	11.9	10.4	5.1	5.7	7.0	5.9
2 or more storeys	3.1	1.2	1.5	1.3	1.9	1.0	2.1	3.7	2.0
Flat/apartment									
1 or 2 storey block	6.4	6.6	7.2	6.4	2.9	4.8	11.0	3.6	6.2
3 storey block	5.5	2.2	2.6	0.7	2.0	0.7	2.4	3.8	3.2
4 or more storeys	4.5	1.0	2.1	0.2	1.4	0.3	1.0	0.9	2.3
attached to a house	0.6	0.4	0.3	0.3	0.2	0.7	0.3	0.8	0.4
Caravan etc. in caravan park	1.2	0.6	2.8	0.7	1.8	0.4	8.8	0.4	1.4
Caravan not in caravan park	0.3	0.1	0.6	0.3	0.3	0.5	2.3	0.0	0.3
Improvised home/ Campers out	0.1	0.1	0.4	0.2	0.3	0.3	3.2	0.0	0.2
House/flat attached to shop/office	0.7	0.6	0.4	0.4	0.3	0.8	0.4	0.1	0.5
Not stated	0.9	0.8	0.7	0.7	0.8	0.7	2.0	0.6	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Approximately three-quarters of all Private Dwellings were classified as separate houses, with Tasmania recording the largest proportion at 84.8 per cent. South Australia and Western Australia had the highest proportion of semi-detached, row, terrace or townhouses

of one storey. New South Wales recorded the greatest proportion of flats and apartments of four or more storeys.

Non-response rates were low for all States and Territories, and with the exception of the Northern Territory, all were less than one per cent. The Northern Territory recorded a two per cent rate, and the Australian Capital Territory the lowest, at 0.6 per cent.

Dwelling structures in the Northern Territory showed a very different distribution from the rest of Australia. There were high proportions of caravans etc. not in caravan parks and improvised homes/campers out, which were much less common elsewhere. A possible reason for this is the warmer climate, enabling people to live outdoors in dwellings such as caravans, houseboats and improvised homes in the middle of winter, when the Census was conducted.

Another factor explaining the high proportion of improvised homes/campers out in the Northern Territory is the high proportion of Aboriginal people living there, many of whom live in communities or outstations and whose accommodation was more likely to be classed as 'improvised home/campers out'. As Table 39 indicates, five per cent of Aboriginal people lived in improvised homes or were camping out, compared to 0.9 per cent of Torres Strait Islanders and 0.1 per cent of non-Aboriginal/Torres Strait Islander people.

TABLE 39: Distribution of Structure of Dwelling by Aboriginal/Torres Strait Islander origin, all persons in private dwellings, 1991 Census

Aboriginal Torres Strait Islander Non-Aboriginal/TSI

Structure Per cent Per cent Per cent

Separate house	82.7	84.0	84.9
Semi-detached/terrace/townhouse			
1 storey	3.7	3.4	4.1
2 or more storeys	1.4	1.5	1.7
Flat/apartment			
1 or 2 storey block	3.8	6.5	3.8
3 storey block	1.0	1.1	2.1
4 or more storeys	0.5	0.5	1.5
attached to a house	0.2	0.2	0.2
Caravan etc. in caravan park	1.1	1.2	1.0
Caravan etc. not in caravan park	0.4	0.2	0.2
Improvised home/Campers out	5.0	0.9	0.1
House or flat attached to shop, office etc.	0.3	0.4	0.5

Total 100.0 100.0 100.0

Comparison with 1990 Survey of Income and Housing Costs and Amenities

Table 40 shows the distribution of Dwelling Structure for occupied Private Dwellings in the 1990 Survey on Income and Housing Costs and Amenities and the 1991 Census. Caravans etc. in caravan parks are excluded from the table because they were out of scope of the Survey. 1991 Census data excludes Not Stated to enable a more accurate comparison with Survey data.

TABLE 40: Distribution of Structure of Dwelling, all private dwellings excluding caravans in caravan parks, 1990 Survey of Income and Housing Costs and Amenities and 1991 Census

Structure Census* Survey Difference

estimate std error

Separate house	79.2	80.7	0.29	-1.5
Semi-detached/terrace/townhouse				

1 storey 5.9 5.3 3.03 0.6
 2 or more storeys 2.0 1.8 5.69 0.2
 Flat/apartment
 1 or 2 storey block 6.1 7.8 2.39 -1.7
 3 storey block 3.2 2.4 4.79 0.8
 4 or more storeys 2.2 0.9 8.43 1.3
 attached to a house 0.4 0.5 11.66 -0.1
 Caravan etc. not in caravan park 0.3 0.1 26.32 0.2
 Improvised home/Campers out 0.2 0.1 26.32 0.1
 House or flat attached to shop, office etc. 0.5 0.4 13.11 0.1

Total 100.0 100.0 0.0

* Census data excludes Not Stated and Caravans etc. in caravan parks for comparability purposes

While the proportion of Separate Houses is smaller in the Census than in the Survey, the overall proportions of townhouses etc. and flats are larger. There are considerable differences within the classification 'Flat/apartment' with fewer flats in 1 or 2 storey blocks recorded in the Census and more flats in 3 or more storey blocks. Although these differences are not great, they may indicate the difficulties that still remain in determining the structure of a dwelling.

The classification was done by interviewers in the Survey and by collectors in the Census. The collectors would have had less experience and training than the interviewers and this may have been a factor in the differences. Some distinctions, such as whether a dwelling is a separate house or townhouse or how many stories a block of flats has, are not clear in some circumstances.

However, the distribution of Dwelling Structure is roughly similar for the Survey and the Census, indicating an acceptable quality of data for this question, despite the potential difficulties of collection.

1996 Census

Some changes are being considered to the Dwelling Structure classifications for the next Census. 'Caravan, tent, cabin etc. in caravan park' and 'caravan not in caravan park, houseboat, etc.' will be combined into 'caravan, cabin, houseboat'.

Some homeless people are currently coded to the 'improvised home/campers out' category. One issue under consideration for the 1996 Census is modifying this classification to better reflect the fact that it incorporates homeless people. To this end, 'campers out' may be altered to 'sleeping out'. Counts of homeless people will not be produced as such but for users with a particular need for this data, further analysis using additional information about those in this category (e.g. usual address, income, labour force status, etc.) could be conducted to develop a better indication of whether these people are camping or have no home.

Summary

In 1986 difficulties were experienced by Collectors classifying Dwelling Structure. The categories were not well-defined or extensive, and were subjective. Testing showed Collectors had problems differentiating between Separate houses and Medium density housing in some instances.

Changes were made to the categories in 1991, with the addition of a new classification, the deletion of Medium density housing, and slight wording changes to other classifications. Data quality improved in 1991, with the non-response rate dropping from 1.5 per cent in 1986 to 0.8 per cent in 1991.

1991 Census data showed broadly similar distributions with that from the 1990 Survey of Income and Housing Costs and Amenities. Separate houses and Flats/apartments in one or two storey blocks recorded the greatest differences, but these were no greater than 1.5 per cent and 1.7 per cent respectively.

The intercensal reduction in the non-response rate for Dwelling Structure, combined with similar distributions for Census and Survey data indicates that there are no problems with the quality of the Census data.

NON-PRIVATE DWELLINGS

Collection procedures for the Census generally centre around a collector delivering a household form to a dwelling several days before Census night and then returning after Census night to collect the completed form. While this procedure is effective for Private Dwellings which are, in most cases, occupied by one household, special procedures have been introduced to deal with more complex situations, for example, where a large number of unrelated people live together or where most people present on Census night are only visiting. Such establishments are called 'Non-Private Dwellings' and include boarding schools, colleges, prisons, nursing homes, motels and hospitals.

It is difficult to give a general definition of 'Non-Private Dwellings' as they cover a wide variety of situations, as can be seen in Appendix 7 which contains the list and description of the categories of Non-Private Dwellings provided to collectors for the 1991 Census. (Note that the categories of 'Nurse's Quarters' and 'Staff Quarters' were combined into 'Staff Quarters' during processing). However, Non-Private Dwellings usually involve rooms, along with communal facilities, or self-contained units provided by an organisation such as a commercial enterprise or government or charitable body.

The procedure used at most Non-Private Dwellings is based on a summary form (or forms if there are more than 80 people in the Non-Private Dwelling) which lists all people in the dwelling. No information on the dwelling (other than type) is collected. A personal form, rather than a household form, is required for each person present. Thus, data on family relationships is not sought in these situations. In 1991 this caused some concern for respondents who considered themselves part of a family, for example, elderly couples living in homes for the elderly.

A variation of this procedure is used for Caravan parks and marinas. In these establishments, a summary form is completed for the establishment and household forms completed for each occupied caravan or boat. Thus, relationship and dwelling data are collected. In the final data the caravan park or marina is not listed as a separate dwelling (as is the case for most Non-Private Dwellings) but rather each household within it represents a Private Dwelling. As caravans in caravan parks and boats in marinas are essentially treated as Private Dwellings, they will be omitted from the remainder of this section.

Usual residents of Non-Private Dwellings

In 1991, 581,633 people (3.5 per cent of the Australian population) were counted in Non-Private Dwellings. This is slightly higher than 1986 when 3.2 per cent of the population were counted in Non-Private Dwellings. Although a small proportion of the population, this represents a substantial number of people who were housed in Non-Private Dwellings on Census night, 60.1 per cent of whom gave it as their usual residence.

TABLE 41: Usual Resident or Visitor at Census night address, all persons, 1991 Census

Number Percent

Type of Usual All Usual All

dwelling resident Visitor persons resident Visitor persons

Hotel, Motel	31,209	102,237	133,446	23.4	76.6	100.0
Staff quarters	19,743	13,400	33,143	59.6	40.4	100.0
Boarding house	16,898	10,193	27,091	62.4	37.6	100.0
Boarding school	27,389	2,339	29,728	92.1	7.9	100.0
Residential college	31,201	5,615	36,816	84.7	15.3	100.0
Public hospital	11,570	36,972	48,542	23.8	76.2	100.0
Private hospital	2,352	11,847	14,199	16.6	83.4	100.0
Psychiatric hospital	6,605	2,562	9,167	72.1	27.9	100.0
Hostel for the disabled	11,019	795	11,814	93.3	6.7	100.0
Nursing home	62,203	1,795	63,998	97.2	2.8	100.0
Home for the aged	67,883	2,280	70,163	96.8	3.2	100.0
Hostel for the homeless	5,306	1,301	6,607	80.3	19.7	100.0
Childcare institution	415	352	767	54.1	45.9	100.0
Corrective institution, children	248	581	829	29.9	70.1	100.0
Other welfare institution	1,984	584	2,568	77.3	22.7	100.0
Prison for adults	9,291	2,165	11,456	81.1	18.9	100.0
Convent, monastery	6,670	840	7,510	88.8	11.2	100.0
Other and not classifiable	19,971	23,150	43,121	46.3	53.7	100.0
Not Stated	17,892	12,776	30,668	58.3	41.7	100.0
All Non-Private Dwellings	349,849	231,784	581,633	60.1	39.9	100.0
Private Dwellings	15,683,268	585,433	16,268,701	96.4	3.6	100.0
All dwellings	16,033,117	817,217	16,850,334	95.2	4.8	100.0

Over three quarters of the people counted in Boarding Schools, Residential colleges, Hostels for the disabled and the homeless, Nursing homes, Homes for the aged, Other welfare institutions, Prisons for adults and Convents/monasteries gave their Census night address as their usual address. In contrast, over three quarters of the people in Hotels/motels and Hospitals were only visitors at their Census night address.

Information on the 'relationship' of people in Non-Private Dwellings is also collected. This relationship refers not to family connections but to their relationship to the operation of the Non-Private Dwelling. In 1991 the following two options were provided: 'Hotel guest, patient, boarder etc.' and 'Staff member, owner or family of staff member or owner.'. Appendix 8 contains a more detailed table, including information on Relationship in Non-Private Dwelling as well as Usual Resident/Visitor status.

The data on 'Relationship' in Non-Private Dwellings appears to contain a number of data quality problems, in particular, a high non-response rate and a surprisingly high proportion of people giving responses of 'Staff member, owner or family of staff member or owner'.

Overall, 15 per cent of people in Non-Private Dwellings were classified as 'Staff members...'. It is clear that there was some confusion among people in staff quarters, with 29.7 per cent of usual residents in staff quarters responding as 'Staff member...' and 26.6 per cent not responding. A similar problem was observed in convents/monasteries with 30.4 per cent of usual residents identifying as 'Staff member...' and 33.4 per cent not responding. A number of other categories of Non-Private Dwellings also had similar, though lesser, problems.

The question on relationship had a 17.9 per cent non-response rate among usual residents and a 6.2 per cent non-response rate among visitors. In particular, non-response was high for usual residents of Hotel/Motels (45.6 per cent) and Prisons for adults (47.2 per cent).

Overall, it can be concluded that there were a number of problems with the 'relationship' data for Non-Private Dwellings in 1991. The form design has been changed substantially for 1996 and this should result in improved accuracy of responses. Rather than just two categories being offered, people completing personal forms in Non-Private Dwellings will be

given the option of:

Persons employed in accommodation

- () Owner, proprietor
- () Staff (e.g. porter, cook, teacher, warden etc.)
- () Family of owner or staff

Residents in accommodation

- () Guest
- () Patient
- () Inmate
- () Resident
- () Other

These detailed categories have been included solely for the purpose of improving the accuracy of responses. Data will be output using two categories similar to those used in 1991.

There is a great deal of variation between States and Territories in the distribution of Non-Private Dwellings among people who gave the Non-Private Dwelling in which they were counted as their usual residence, as can be seen in the following table.

TABLE 42: Distribution of Non-Private Dwelling Type by State/Territory, usual residents of non-private dwellings, 1991 Census

Type of

dwelling NSW Vic Qld SA WA Tas NT ACT Aust

Hotel, Motel	9.6	6.1	12.6	4.9	7.1	5.8	26.7	4.9	8.9
Staff quarters	3.5	4.9	7.2	3.7	11.0	2.2	23.3	2.7	5.6
Boarding house	5.3	4.4	5.2	3.4	3.9	4.3	11.7	3.7	4.8
Boarding school	8.3	4.8	11.7	4.7	8.9	6.6	6.7	3.3	7.8
Residential college	7.5	8.9	8.8	5.1	8.6	13.4	4.4	47.3	8.9
Public hospital	3.3	4.5	2.5	4.1	2.6	2.9	1.0	2.7	3.3
Private hospital	0.5	1.1	0.6	0.7	0.6	0.8	0.1	0.1	0.7
Psychiatric hospital	1.6	2.8	1.6	2.0	1.8	3.1	0.0	0.7	1.9
Hostel for the disabled	3.4	2.7	2.8	5.3	2.8	5.8	0.2	1.2	3.1
Nursing home	21.8	17.4	13.3	23.0	15.0	18.2	2.1	6.2	17.8
Home for the aged	15.9	23.5	18.9	28.5	21.9	20.1	2.9	5.6	19.4
Hostel for the homeless	1.7	1.4	1.4	1.4	1.1	2.5	2.2	1.0	1.5
Childcare institution	0.2	0.1	0.1	0.0	0.1	0.3	0.1	0.0	0.1
Corrective institution, children	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1
Other welfare institution	0.6	0.8	0.6	0.3	0.3	0.4	0.5	0.4	0.6
Prison for adults	3.9	1.8	2.3	2.3	1.7	1.6	4.1	0.1	2.7
Convent, monastery	2.6	2.1	1.2	1.2	1.6	1.6	0.2	1.3	1.9
Other and not classifiable	6.1	7.0	4.9	3.2	5.0	3.1	8.7	7.1	5.7
Not Stated	4.1	5.8	4.5	6.0	6.0	7.2	5.0	11.6	5.1

All Non-Private Dwellings 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0

In most States the majority of people who were usual residents in the Non-Private Dwelling in which they were counted were in Nursing homes or Homes for the aged. The proportions of people in these two institutions varied considerably between States, suggesting that the allocation of institutions to these categories may not be consistent between States, although it may also reflect differences in the types of institutions found in each State.

Nursing homes and Homes for the aged were not as common in the Territories: in the Northern Territory, most people were counted in Hotels/motels or Staff quarters while in the Australian Capital Territory almost half the people who lived in Non-Private Dwellings lived in Residential colleges/Halls of residence. In part, this could be explained by the younger age profile in the Northern Territory and the Australian Capital Territory. The presence of a relatively large number of residences for 'National' Institutions, such as the Australian Institute of Sport and the Australian National University, in the ACT will also contribute to

this.

Comparison with 1986 Census counts

While the objective of using special strategies for Non-Private Dwellings is to accurately enumerate all people present in them on Census night, the data on Non-Private Dwellings themselves is of interest to many users. The quality of data on Non-Private Dwellings for 1991 is limited, however, as is apparent from the large differences between the 1986 and 1991 Census in Table 43 below, which contains counts of both Non-Private Dwellings and persons in Non-Private Dwellings in the 1986 and 1991 Censuses.

TABLE 43: Non-Private Dwelling Type, all non-private dwellings and persons in non-private dwellings, 1986 and 1991 Censuses

Dwellings Persons

	1986 Census	1991 Census	Percent Difference	1986 Census	1991 Census	Percent Difference
Type of NPD	Number	Number	Per cent	Number	Number	Per cent
Hotel, Motel	7,110	6,778	-4.7	105,949	133,446	26.0
Staff quarters	2,552	1,412	-44.7	50,991	33,143	-35.0
Boarding house	2,560	1,625	-36.5	45,445	27,091	-40.4
Boarding school	199	256	28.6	20,408	29,728	45.7
Residential college	337	374	11.0	24,204	36,816	52.1
Public hospital	903	662	-26.7	53,584	48,542	-9.4
Private hospital	291	285	-2.1	13,758	14,199	3.2
Psychiatric hospital	201	127	-36.8	14,856	9,167	-38.3
Hostel for the disabled	429	548	27.7	8,804	11,814	34.2
Nursing home	1,505	1,166	-22.5	82,593	63,998	-22.5
Home for the aged	977	1,277	30.7	44,979	70,163	56.0
Hostel for the homeless	374	491	31.3	4,491	6,607	47.1
Childcare institution	201	82	-59.8	2,895	767	-73.4
Corrective institution, children	38	26	-31.6	1,082	829	-23.0
Other welfare institution	168	179	6.6	2,755	2,568	-6.8
Prison for adults	196	190	-3.1	11,849	11,456	-3.3
Convent, monastery	1,250	950	-24.0	10,659	7,510	-29.54
Other and not classifiable	62	1,871	2917.7	1,408	43,121	2962.6
Not Stated	0	1,582	..	0	30,668	..
Total	19,356	19,881	2.7	500,710	581,633	16.2

The changes in counts between 1986 and 1991 represent large percentage changes for many categories. However, the most apparent problem from this table is the high incidence of 'Other and not classifiable' and 'Not stated' responses in 1991 compared to 1986, representing 17.4% of Non-Private Dwellings in 1991. This is of concern as special collectors should have completed the summary form on which this information was collected and therefore it should be complete. The summary forms should then be checked by collectors and group leaders who should have picked up any missing information.

The zero non-response rate in 1986 is due to the processing procedures employed then. Type of Non-Private Dwelling was manually coded by matching the name of the institution against an index of Non-Private Dwellings. Thus, responses not completed by collectors would probably have been coded during processing. In 1991, the data is as captured from the form with no intervention or editing. As a result it would be expected that the non-response rate would be higher.

The 1991 Census National Evaluation Conference identified a number of factors which may have contributed to the poor quality of the data on Non-Private Dwellings. Some of these factors related to the nature of Non-Private Dwellings and the attitude to the Census of their operators. This was particularly important as for many Non-Private Dwellings someone from within the dwelling, usually a member of staff, was appointed as the 'Special Collector' to be

responsible for enumeration on Census night. The problems within Non-Private Dwellings were summarised in the conference report as follows:

Management or owners of NPDs are often unwilling to allow enumeration to occur - private NPDs such as hotels or caravan parks already consider themselves to be 'over-surveyed' and they see a conflict of interests between their clients and the perceived imposition of the Census; institutions wish to protect their inmates from outside pressures; and staff and management in many NPDs feel they are overworked already and do not welcome the 'imposition' of a Census, while others are just disinterested.

The failure of these procedures has led to the investigation of a number of possible changes for the 1996 Census. As many Special Collectors from within Non-Private Dwellings were uncooperative, in 1996 an attempt will be made, where possible, to employ people outside the Non-Private Dwellings to act as collectors.

The division of the tasks involved in contacting Non-Private Dwellings between Divisional Managers, Group Leaders and Special Collectors (or Collectors for small Non-Private Dwellings) and the fact that no-one had final responsibility for ensuring correct enumeration of Non-Private Dwellings led to confusion on both sides and may have affected the co-operation received from the management of Non-Private dwellings. In 1996, the division of tasks will be re-examined and more responsibility will probably be given to the equivalent of the Group Leader.

Summary

Non-Private Dwellings, including Nursing Homes, Hotels/motels and Residential Colleges, were given as the usual residence for almost 350,000 people on Census night 1991. Information on Type of Non-Private Dwelling should have been completed by the Collector or Special Collector however the quality of data in 1991 appears to be very poor. A number of difficulties with the 1991 procedures have been identified and improvements are being investigated for the 1996 Census.

CONCLUSION

The quality of housing data from the 1991 Census has been examined in this paper using 1986 and 1991 Census data, as well as data from various surveys. Conclusions from each Section in the paper are outlined below:

Accuracy of the counts of Private Dwellings

Much of the discussion on the quality of the housing data focuses on the issue of the accuracy of the count of Private Dwellings. Although the Census regards one household as being equivalent to an occupied private dwelling, it is possible to have a variety of living arrangements so that the counts of dwellings and households are not necessarily equal.

It is possible that multiple household dwellings might result some overcounting of dwellings, as the Census counts households rather than dwellings. For example, where there were three households living in one dwelling, three households and therefore three dwellings would be counted in the Census.

Two separate investigations were conducted into the incidence of multiple household dwellings using 1988 and 1991 Labour Force Survey data. In the first investigation, it was estimated that there were 0.91 per cent of these dwellings in January, 0.90 per cent in

March and 0.86 in June 1988. A similar exercise was undertaken using August 1991 Labour Force Survey data which estimated them at 0.65 per cent. Because of certain Labour Force Survey procedures, it is likely that these are slight over-estimations.

The Post Enumeration Survey provides an indication of the accuracy of the Census private dwelling counts. Nationally, the undercount rate was 1.3 per cent, which was 0.4 per cent higher than in 1986. However, this rate is still very low. The undercount rate for the total Balance of State, at 2.2 per cent, was almost three times higher than for the total for Capital City Statistical Divisions. A majority of dwellings missed in the Census were probably unoccupied.

The net undercount, as shown by the PES, is greater than the overcounting of dwellings due to unrecorded multiple household dwellings. When both are applied to the Census count of dwellings, the Census undercounted approximately 49,840 or 0.77 per cent of Private Dwellings. Therefore the quality of the count in 1991 was quite good.

Nature of Occupancy

Intercensal comparisons showed that approximately two per cent more households owned their dwellings, about four per cent fewer were purchasing them and about one per cent more were renting in 1991 than in 1986. These changes were mostly due to societal issues such as the ageing of the population and increases in costs associated with buying dwellings between 1986 and 1991. Non-response rates increased by 0.8 per cent between 1986 and 1991, reflecting on the quality of the data. The increase in this categories may reflect the rising numbers of households which have tenure arrangements other than owning, purchasing or renting dwellings for which the current categories are inappropriate. However, the increases in those categories were for relatively small number of dwellings.

Comparison with data from the 1988-89 Household Expenditure Survey shows that Census data is in broadly similar ranges. When comparisons are undertaken with data from the 1990 Survey of Income and Housing Costs and Amenities, the distributions are even closer. This is probably due to the closer time frame between that Survey and the Census. Overall, the comparisons indicate that data quality was reasonably good.

Rent/Housing Loan Repayments

In 1991 data on Rent and Housing Loan Repayments were captured in ranges rather than single dollar amounts as in previous Censuses, due to the introduction of Optical Mark Recognition technology. Capturing this information in ranges tends to limit the usefulness of the data.

Comparison with 1986 data showed that non-response for Rent and Housing Loan Repayments was relatively low, indicating that households did not find the questions sensitive or experience difficulties with the concepts involved. Those whose tenure arrangements did not cover owning, purchasing or renting most likely were not classed as such in Nature of Occupancy coding and therefore not expected to answer Rent or Housing Loan Repayments.

When Dwelling Structure was analysed in conjunction with these two variables, it was found that some people living in a house or flat attached to a shop or office included rent or loan repayments on the shop or office with the cost of their accommodation. This could distort the overall distribution of Rent payments.

Comparisons with data from the Survey of Income and Housing Costs and Amenities was similar, indicating the quality of the Census data was quite good.

Type of Landlord and Furnished/Unfurnished

Type of Landlord data showed broadly similar results for the 1986 and 1991 Censuses. The rate of non-response was unchanged at approximately three per cent. A large majority of households rented their dwellings from Other Landlords, which were most likely private landlords and real estate agents.

Apparent inconsistencies were discovered with Type of Landlord and some Dwelling Structures. Some caravans and improvised homes were rented from Housing Commissions/Authorities and Other Government Agencies. However, only very small numbers of dwellings were affected.

Furnished/Unfurnished non-response rates rose from 2.6 in 1986 to 7.4 per cent in 1991. This is likely due to the question being crowded at the bottom of the page in 1991, where it could be easily overlooked by respondents. Non-response for caravans and improvised homes was high, indicating that the question was inappropriate for these Dwelling Structures.

Number of Bedrooms

This question was altered considerably between 1986 and 1991. It was changed from a write-in format asking the number of specific room types in the dwelling in 1986, to a self-coding question about number of bedrooms only in 1991.

Households living in Caravans in caravan parks did not have to answer this question until the 1991 Census, when the caravans were reclassified as Private Dwellings. Non-response to this question for Caravans in caravan parks, at approximately 13 per cent, was much higher than for all other Private Dwellings. This may be due to the fact that directions in the Census Inquiry Guide instruct those living in caravans not to answer the question.

When Caravans in caravan parks are excluded from calculations, the non-response rate fell intercensally. The simplification of the wording and format in 1991 probably influenced this improvement in data quality. Non-response appears to be higher for dwellings with none or one bedroom.

Comparisons with Number of Bedroom data from the Survey of Income and Housing Costs and Amenities showed close alignment of all the categories. This indicates acceptable quality of the Census data.

Dwelling Structure

There were problems with data quality in 1986, as the categories listed on the Census form were ill-defined and did not cover all possible Dwelling Structures.

The classifications were altered in 1991, with a subsequent improvement in data quality. Non-response fell from 1.4 per cent in 1986 to 0.8 per cent in 1991. These low rates were recorded partially because collectors rather than householders answered the question.

Comparison with the 1990 Survey of Income and Housing Costs and Amenities showed similar distributions, which indicates quite good Census data quality.

Non-Private Dwellings

Data quality for Non-Private Dwellings is relatively poor. Comparison with 1986 data

indicated large differences for most categories for counts of these dwellings and of the people residing in them on Census night. 'Other and not classifiable' and 'Not Stated' responses were much higher than in 1986, and comprised approximately 17 per cent of all Non-Private Dwellings in 1991. In 1986 there was clerical checking of the type of Non-Private Dwelling, which may explain the much lower non-response rate.

The 1991 Census National Evaluation Conference identified a number of issues which might have contributed to the poor quality of the data. These were the nature of Non-Private Dwellings and the attitude of many Special Collectors, who were often staff of the Non-Private Dwellings.

Summary

Overall, the quality of the housing data for Private Dwellings appears quite good, both in terms of counts and information obtained. Changes are planned for most of the housing questions in 1996, to reflect societal changes. The Nature of Occupancy question will include 'rent/buy', 'rent free', 'life tenure' (for residents in retirement establishments) and 'other', to take account of the greater variety of tenure arrangements now available. One write-in question on household payments will replace the Rent and Housing Loan Repayments questions. Type of Landlord will have six categories plus 'other', and the Furnished/Unfurnished question will include 'partly furnished'. Separate categories will be provided for 'none' and 'one' for Number of Bedrooms. 'Caravan etc. in caravan park' and 'caravan not in caravan park' will be combined into 'caravan, cabin, houseboat' for Dwelling Structure.

Non-Private Dwelling data is of relatively poor quality. Problems with 1991 Non-Private Dwellings have been identified and changes are being planned for the next Census, which it is hoped will result in improvements to data quality.

About this Release

ABOUT THIS RELEASE

This paper provides an assessment of the quality of data on housing in the 1991 Census. Analysis of the data involved consideration of intercensal changes, non-response rates and data from a number of independent surveys. Issues such as the impact of equating households with dwellings in the Census and the impact of form design changes were examined. In addition, the changes being considered for the 1996 Census will also be mentioned as they deal with a number of issues identified from the 1991 Census.